

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Reorganization and Revision of)	WT Docket No. 94-148
Parts 1, 2, 21, and 94 of)	
the Rules to Establish a New)	
Part 101 Governing Terrestrial)	
Microwave Fixed Radio Services)	
)	
Amendment of Part 21 of the)	CC Docket No. 93-2
Commission's Rules for the Domestic)	
Public Fixed Radio Services)	
)	
McCaw Cellular Communications, Inc.)	RM-7861
Petition for Rule Making)	
)	
Amendment of Part 101 of the Commission's)	WT Docket No. 00-19
Rules to Streamline Processing of Microwave)	
Applications in the Wireless Telecommunications))	
Services)	
)	
Telecommunications Industry Association)	RM-9418
Petition for Rulemaking)	

**MEMORANDUM OPINION AND ORDER
AND NOTICE OF PROPOSED RULE MAKING**

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(Comments to be filed in WT Docket No. 00-19 and RM-9418 only.)

By the Commission:

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I. INTRODUCTION AND EXECUTIVE SUMMARY

1. In the *Report and Order* in WT Docket No. 94-148 and CC Docket No. 93-2, the Commission consolidated the rules for the common carrier and private operational fixed (POFS) microwave services contained in Parts 21 and 94, respectively, of the Commission's Rules to create a new Part 101 (*Part 101 Order*).¹ The portion of this action addresses the pending petitions for

Part 101 Order

clarifications contribute significantly to more readily understood rules, we have modified certain Part 101 and completeness of our Part 101 rules. We decline, however, to adopt several of the substantive changes more appropriately raised in the context of a separate proceeding. The significant decisions in this are as follows:

Until a more sufficient record can be developed, we decline to change the rule prohibiting programming to cable television (CATV) systems, multipoint distribution systems (MDS), and .

thirty days prior to the date the application is granted, but will continue to release an informal .

licensees from handling common carrier traffic.

We modify Parts 24, 25, 74, and 78 to substitute references to the remove references therein to former Parts 21 and 94.

We clarify and incorporate necessary clerical changes to certain rules.

Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing *Report and Order*, WT Docket No. 94-148, 11 FCC Rcd 13449 (1996) (*Part 101 Order*).

. In the *Notice of Proposed Rule Making* regulations that are duplicative, outmoded, or otherwise unnecessary. We seek to further the work begun by the consolidation of Parts 21 and 94 into a single Part 101 in the and in our implementation of a Universal Licensing System (ULS) for wireless applications. The new consolidated

private operational fixed microwave service licensees, and furthers regulatory parity between these microwave services. Once fully deployed, the ULS will eliminate the need for wireless carriers to file duplicative applications, and will increase the accuracy and reliability of licensing information. In addition, we note that SBC Communications has similarly proposed that the Commission consolidate⁴ Applicants, licensees

explanations of ways to streamline them and to make sure that the regulations conform with the Communications Act of 1934, as amended (Act).

3. Specifically, we seek comment on the following issues:

grandfathering certain POFS licensees who formerly carried private traffic now classified carrier services;

-
- deleting several unnecessary or redundant sections of the rules concerning forms,
- clarifying conditional operations in the four low power frequency pairs in the 23 GHz

Part 101 Order, 11 FCC -53.

3

Commission's Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, , WT Docket No. 98-20, 13 FCC Rcd 21027, 21031, 63 Fed. 68904 (1998) (*ULS Proceeding* see also Biennial Regulatory Review -- Amendment of Parts 0, 1, 13, 22, 24, 26,

Licensing System in the Wireless Telecommunications Services, *Notice of Proposed Rulemaking* 98-20, 13 FCC Rcd (). Generally, issues relating to the consolidation of Part 101 *ULS Proceeding*, while this item deals with technical and regulatory issues *ULS Proceeding* replaced FCC Form 415 with FCC Form 601, so *Part 101 Order* referred to FCC Form 415. , 13 FCC Rcd

21037. See also

and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, , WT Docket No. 98-20, FCC 99-139, (. Jun. 28, 1999).

⁴ SBC Communications, Inc. Petition for Section 11 Biennial Review at vii, 35-36 (filed May 8, 1998) (SBC Petition).

Communications Act of 1934, as amended, 47 U.S.C § 151, *et seq*

- updating the transmitter frequency tolerance table in Section 101.107, and correcting and clarifying other minor technical rules;
- allowing conditional operation in the 952.95-956.15 and 956.55-959.75 MHz bands.

4. We note that some of the proposed rule changes are procedural in nature, and thus are exempt from notice and comment requirements pursuant to Section 553(b)(3)(A) of the Administrative Procedure Act.⁶ However, as a result of the consolidation of Parts 21 and 94, we realize that the combination of common carrier and private microwave rules and procedures requires a period of adjustment. We believe that this approach will afford the public an opportunity to provide feedback on how these adjustments are succeeding or failing.

5. We also address a Petition for Rulemaking filed by the Telecommunications Industry Association (TIA).⁷ The *TIA Petition* focuses on permitting conditional authorization in the 23 GHz band, making the 23 GHz band more accessible to fixed service users, and modifying antenna standards for the 10 GHz and 23 GHz bands to allow for more hops and longer paths. TIA also proposes rule changes to Part 74, Television Broadcast Auxiliary Service, to permit transport of digital transmissions over point-to-point microwave frequencies in that service.⁸ We seek comment on the following proposals regarding the 23 GHz band:

- permitting conditional licensing;
- rechannelizing the band into 50, 40, 30, 20, 10, 5, and 2.5 MHz channels;
- permitting common carrier and POFS users to share the entire band;
- changing the frequency tolerance to 0.001%;
- requiring spectrum efficiency of one bit-per-second per Hertz (1 bps/Hz);
- designating 200 MHz for low power, limited coverage systems;
- modifying the antenna standards.

We also seek comment regarding modifying the antenna standards in the 10 GHz band.

6. In addition, we seek comment regarding whether, and how, our licensing approach in Part 101 should be modified to implement the Balanced Budget Act of 1997 (Balanced Budget Act).⁹ We seek input on the best licensing structure to ensure that spectrum above the 2 GHz band is licensed efficiently and used in the public interest, including the following issues regarding whether we should substantially alter microwave licensing above 2 GHz in light of the Balanced Budget Act:

⁶See 5 U.S.C. § 552(b)(3)(A).

⁷TIA Petition for Rulemaking (filed Mar. 5, 1998) (TIA Petition).

⁸This item will address this proposal only insofar as it overlaps with Part 101. The proposals for Part 74 are beyond the scope of this proceeding and will be handled in a separate proceeding.

⁹Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251.

We present several options for reinventing the licensing process for Part 101 spectrum consistent with our auction procedures.

We request comment on how to segregate exempted spectrum from the auctions process.

We request comment on whether to require the licensees where we use geographic licensing to develop agreements between each other on how to utilize their spectrum, especially the most efficient and effective use in each geographic area.

- concerning a new proposal for frequency reuse in the 12.2.-12.7 GHz band.
- provision of the Communications Act of 1934, as amended, or the Commission's rules with respect t¹⁰

In addition, we issued a seeking comment on how to implement the Balanced Budget Act generally, but we did not specifically address fixed microwave services in that¹¹ We will consider the record in both proceedings in deciding whether or how Part 101 should

II. BACKGROUND

⁷ *Regulatory Framework.* Communications services that use the microwave spectrum for fixed services include common carriers (formerly regulated by Part 21); common carrier Multiple Address¹³ international point-to-point operators (Part 23); space station and satellite

broadcasters for studio-to-transmitter links (STL) or inter-city relays (ICR) (Part 74); CATV operators (Part 78); MDS operators (Part 21); and POFS users (formerly Part 94). Fixed microwave spectrum is primarily used to deliver video (such as Local Television Transmission Service (LTTS)), audio, data, and

¹⁰ 47 U.S.C. § 160(a).

¹¹ Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, *Notice of*, WT Docket No. 99-87, 14 FCC Rcd 5206 (1999) ().

¹² See 47 C.F.R. § 101.3; Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, WT Docket No. 94-148, 10 FCC Rcd 2508, 2509 n.2 (1994) ().

¹³ multipoint systems governed by Part 22 of the Rules. See *see also* Amendment of the Commission's Rules Regarding Multiple Address Systems, *Rulemaking*, WT Docket No. 97 rel. July 1, 1999) (); Amendment of the Commission's Rules Regarding Multiple Address Systems, WT Docket No. 97-81, Rcd 7973, 7974 n.1 (1997) ().

¹⁴ , 11 FCC Rcd at 13451.

control functions for other specific communications services such as Local Multipoint Distribution Service (LMDS) and Digital Electronic Message Service (DEMS) from one point and/or hub to other points and/or subscribers for distribution. A convergence of common carrier and POFS technical standards has occurred over the last decade as a result of several rule making proceedings.¹⁵ In addition, the reallocation of five bands above 3 GHz, on a co-primary basis, to common carrier and POFS microwave licensees relocating from the 1850-1990, 2110-2150, and 2160-2200 MHz bands (2 GHz bands) has significantly impacted fixed microwave services.¹⁶ As a result of the reallocation of spectrum for emerging technologies and the associated increase in frequency band-sharing, common carrier and private microwave industry members united to develop joint interference standards and coordination procedures. TIA's Fixed Point-to-Point Microwave Engineering Committee collaborated with the National Spectrum Managers Association, Inc. (NSMA), a group of frequency coordinators for microwave applicants, to determine interference criteria for microwave spectrum users, resulting in 1994 in a revised TIA Telecommunications Systems Bulletin TSB 10-F, "Interference Criteria for Microwave Systems." The industry's collaboration and coordination agreements greatly assisted the Commission in consolidating Parts 21 and 94 of the Rules, and signaled the industry's desire to have common carrier and POFS microwave services treated in the same fashion when appropriate.

8. On December 28, 1994, the Commission released a *Notice of Proposed Rule Making* in WT Docket No. 94-148 (*Part 101 Notice*).¹⁷ The *Part 101 Notice* proposed simplifying the rules for the Part 21 common carrier and Part 94 POFS microwave services, and consolidating them into a new Part 101. In a separate *Notice of Proposed Rule Making* in CC Docket No. 93-2 (*Point-to-Point Notice*),¹⁸ the Commission proposed revising Part 21 to eliminate certain reporting requirements and to allow common carrier microwave applicants to begin constructing facilities prior to the grant of authorizations.¹⁹ The Commission consolidated the two proceedings, and, on February 8, 1996, adopted most of the proposals in

¹⁵See e.g., Amendment of Parts 1, 21, 22, 74 and 94 of the Commission's Rules to Establish Service and Technical Rules for Government and Non-government Fixed Service Usage of the Frequency Bands 932-935 MHz and 941-944 MHz, *First Report and Order*, Gen. Docket No. 82-243, 6 FCC Rcd 4320 (1991); Establishment of a Spectrum Utilization Policy for the Fixed and Mobile Services' Use of Certain Bands Between 947 MHz and 40 GHz, *Third Report and Order*, Gen. Docket No. 82-334, 2 FCC Rcd 1050 (1987); Authorizing Private Carrier Systems in the Private Operational-Fixed Microwave Radio Service, *First Report and Order*, PR Docket No. 83-426, 50 Fed. Reg. 13338 (1985); Use of Radio in Digital Termination Systems and in Point-to-Point Microwave Radio Systems for Provision of Digital Electronic Message and Other Specific Services, *Second Report and Order*, Gen. Docket No. 79-188, 48 Fed. Reg. 50322 (1983); Amendment of Part 94 of the Commission's Rules and Regulations to Facilitate Operation of Low Power, Limited Coverage Systems in the 22.0-23.6 GHz Band, *First Report and Order*, PR Docket No. 79-337, 81 FCC 2d 140 (1980).

¹⁶See Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, *Second Report and Order*, ET Docket No. 92-9, 8 FCC Rcd 6495 (1993) (*Emerging Technologies Second Report and Order*).

¹⁷*Part 101 Notice*, 10 FCC Rcd at 2508.

¹⁸Amendment of Part 21 of the Commission's Rules for the Domestic Public Fixed Radio Services, *Notice of Proposed Rule Making*, CC Docket No. 93-2, 8 FCC Rcd 1112 (1993) (*Point-to-Point Notice*).

¹⁹Herein we use "authorization" as a generic term which could refer to a license, special temporary authority, assignment of license, transfer of control, or any other order or instrument of authority that the Commission may grant.

the *Part 101 Order*.²⁰

9. The *Part 101 Order* created one comprehensive rule part setting forth application processing rules, technical standards, and operational requirements for microwave spectrum, including DEMS (a two-way end-to-end fixed radio service utilizing digital termination systems for the exchange of digital information), the Private Operational Fixed Point-to-Point Microwave Service (a private radio service rendered on microwave frequencies on fixed and temporary fixed stations between points within the United States or between points in the United States and points in Canada or Mexico), the Common Carrier Fixed Point-to-Point Microwave Service (a common carrier public radio service rendered on microwave frequencies on fixed and temporary fixed stations between such points), and LTTS (a public radio communication service for the transmission of television material and related communications).²¹ Soon thereafter, the Commission adopted rules for LMDS (a fixed one-way or two-way point-to-point or point-to-multipoint radio service that may be interconnected with the public switched telephone network), and added them to Part 101.²² Each of these services shares at least some frequencies with at least one other Part 101 service, and some frequencies are shared with government users.²³ Most Part 101 application processing rules, technical standards, and operational requirements apply to all Part 101 services, but others apply only to specific services,²⁴ or to common carrier services but not private services (or *vice versa*).²⁵

10. *Auctionability of Fixed Microwave Bands*. Section 309(j)(2) of the Communications Act formerly stated that mutually exclusive applications for initial licenses or construction permits were auctionable if the principal use of the spectrum was for subscriber-based services, and competitive bidding would promote the expressed objectives of the Act.²⁶ Based on this standard, the Commission found all Part 94 spectrum to be non-auctionable because the principal use of the POFS was not subscriber-based,²⁷

²⁰*Part 101 Order*, 11 FCC Rcd at 13449.

²¹*Id.* at 13451, 13497-505; see 47 C.F.R. § 101.3. The Multipoint Distribution Service (MDS), included in Part 21 (Subpart K), was unaffected by this proceeding. Common carrier and non-common carrier MDS licensees and applicants continue to be subject to the current MDS rules and application filing procedures.

²²Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking*, CC Docket No. 92-297, 12 FCC Rcd 12545, 12725-62 (1997) (*LMDS Second Report and Order*); Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, *First Report and Order and Fourth Notice of Proposed Rulemaking*, CC Docket No. 92-297, 11 FCC Rcd 19005, 19064-70 (1996).

²³See 47 C.F.R. § 101.147(a).

²⁴See, e.g., 47 C.F.R. §§ 101.21(e), 101.61(c).

²⁵See, e.g., 47 C.F.R. §§ 101.13, 101.15.

²⁶See 47 U.S.C. § 309(j)(2) (1996).

²⁷Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, *Second Report and Order*, PP Docket No. 93-253, 9 FCC Rcd 2348, 2354 (1994).

and found all Part 21 common carrier point-to-point microwave frequencies to be non-auctionable because using auctions to award licenses for intermediate links would not promote the Act's objectives.²⁸ LMDS, on the other hand, was determined to be an auctionable service.²⁹ In addition, the Commission tentatively concluded that two of the three frequency bands allocated to MAS also were auctionable under former Section 309(j)(2).³⁰

11. In 1997, the Balanced Budget Act amended Section 309(j) to provide that all mutually exclusive applications for initial licenses or construction permits *shall* be auctioned, except licenses and construction permits for public safety radio services, digital television service for existing analog television licensees, and noncommercial educational radio and television stations.³¹ Additionally, Section 309(j)(6)(E) of the Communications Act states that, in determining the auctionability of applications, the Commission has the "obligation in the public interest to continue to use engineering solutions, negotiation, threshold qualifications, service regulations, and other means to avoid mutual exclusivity in application and licensing proceedings."³² We have issued a *Notice of Proposed Rule Making* seeking comment on how to implement the Balanced Budget Act.³³ We sought comment on, *inter alia*, how the Balanced Budget Act's revision of our statutory auction authority affects our determination of which wireless services are potentially auctionable and our determinations of the appropriate licensing schemes for new and existing services.³⁴ We also requested comment on the scope of the exemption from competitive bidding for public safety radio services, and on what regulatory provisions could be established to ensure that frequencies assigned without auctions meet the statutory requirements for exemption.³⁵ In the context of another proceeding, the Commission determined spectrum in the 38.6-40.0 GHz ("39 GHz") band, demand for which was increasing dramatically due to the projected need for point-to-point spectrum by Personal Communications Service (PCS) and cellular licensee and by providers requiring or furnishing other types of point-to-point

²⁸*Id.* at 2356.

²⁹*LMDS Second Report and Order*, 12 FCC Rcd at 12673-74. The spectrum was divided into an 1,150 MHz block and a 150 MHz block, licensed based on 493 geographic areas known as Basic Trading Areas, *see Rand McNally Commercial Atlas and Marketing Guide* 38-39 (128th ed. 1997). Licensees are permitted to partition ("partitioning" is the assignment of geographic portions of a geographic service area along geopolitical or other boundaries) and disaggregate ("disaggregation" is the assignment of discrete portions of spectrum licensed to a geographic area licensee) their licenses.

³⁰*MAS Notice*, 12 FCC Rcd at 7996-97. MAS was proposed to be licensed by forty-seven 12.5 kHz channel pairs based on 175 geographic areas known as Economic Areas, with partitioning and disaggregation permitted. *Id.* at 7982-83, 7987-88.

³¹47 U.S.C. § 309(j) (as amended by Balanced Budget Act, § 3002). This *Notice of Proposed Rule Making* does not seek comment on the digital television exemption. To the extent the Commission determines that it is necessary to clarify the exemption for digital television or adopt implementing regulations for that exemption, we intend to do so in a proceeding specifically addressing broadcast services. *BBA Notice*, 14 FCC Rcd at n.104.

³²47 U.S.C. § 309(j)(6)(E).

³³*See BBA Notice*, 14 FCC Rcd 5206.

³⁴*Id.*, ¶ 1.

³⁵*Id.*

services, to be auctionable under the Balanced Budget Act.³⁶ Under the new statutory standards for choosing among mutually exclusive applications, our previous reasons for not promulgating auction rules for other Part 101 spectrum now must be reconsidered.

III. MEMORANDUM OPINION AND ORDER

12. We have before us petitions for reconsideration and/or clarification of the *Part 101 Order* filed by the Association of American Railroads (AAR), CAI Wireless Systems, Inc. (CAI), Cox & Smith Inc. (C&S), Multipoint Networks (Multipoint), TIA's Network Equipment Division and NSMA (TIA/NSMA), and UTC, The Telecommunications Association (UTC). For the most part, the parties support the Commission's efforts to streamline, update, and simplify the rules for the common carrier and POFS services. Some petitioners take issue with the substantive context of certain Part 101 rules. Other petitioners have requested minor clarifications of certain rules or have indicated the need for correction of clerical errors. Below, we address the pending petitions, set forth our reasons for granting or denying particular requests, and make necessary modifications and additions to the Part 101 rules.

A. Expanded Use of 10.7 - 11.7 GHz Frequencies

13. Section 101.603(b)(3) of our Rules incorporates the prohibition, formerly found in Section 94.9(b)(3), against using POFS frequencies (except 6,425-6,525 MHz, 18,142-18,580 MHz, or above 21,200 MHz) for the final radio frequency link in the chain of transmission of program material to CATV, MDS, or MATV systems.³⁷ OpTel, Inc. seeks clarification concerning whether the Commission intended to retain the "final link" restriction when it established Section 101.603,³⁸ and CAI requests that the Commission either delete the restriction or add the 10.7-11.7 GHz band (11 GHz band) to the bands excepted from the restriction.³⁹ The *Part 101 Order*, *Part 101 Notice*, and *Point-to-Point Notice* do not address directly the final link restriction raised by OpTel and CAI. The *Part 101 Order* was primarily aimed at consolidating the Part 21 and 94 rules into a single Part 101. The "final link" restriction, however, was expressly included in the proposed and final language for Section 101.603(b)(3).⁴⁰ Because there has been no prior discussion of the idea, we conclude that it is important to develop a record on CAI's proposal. Thus, we plan to address the matter in the *Notice of Proposed Rule Making*.

B. Deletion of Thirty-Day Notice Period

14. After the comment period for the *Part 101 Notice* closed, Congress removed fixed point-to-

³⁶ Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, *Report and Order and Second Notice of Proposed Rule Making*, ET Docket No. 95-183, 12 FCC Rcd 18600, 18645-47 (1997) (*39 GHz Report and Order*). The spectrum, which consists of fourteen pairs of 50 MHz blocks, will be licensed by geographic areas, and licensees will be permitted to partition and disaggregate. *Id.* at 18610-12, 18635. *See also* Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, *Memorandum Opinion and Order*, ET Docket No. 95-183, FCC 99-179, 64 FR 45891 (Aug. 23, 1999).

³⁷ *See* 47 C.F.R. §101.603(b)(3).

³⁸ *See* Letter from Henry Goldberg, counsel for OpTel, Inc. to Michele Farquhar, Chief, Wireless Telecommunications Bureau (March 29, 1996).

³⁹ CAI Petition for Partial Reconsideration at 2-4 (CAI Petition).

⁴⁰ 47 C.F.R. § 101.603(b)(3).

point microwave applications from the classes of applications that trigger a thirty-day public notice and comment period, during which interested parties could file petitions to deny.⁴¹ Congress took this action to expedite licensing in the private fixed point-to-point microwave service by deleting the former subparagraph (A) that required public notice.⁴² Accordingly, the *Part 101 Order* amended Section 1.962(a) of the Rules⁴³ to eliminate the public notice and comment requirement for such applications.⁴⁴

15. TIA/NSMA claim that the Commission should have provided notice and the opportunity to comment before amending Section 1.962(a).⁴⁵ They argue that deleting the thirty-day public notice period effectively denies opposing parties the opportunity to file petitions to deny, which amounts to denial of a substantive right.⁴⁶ Thus, they contend, the rule change was beyond the scope of the exception to the notice and comment requirement for a "rule of agency organization, procedure or practice."⁴⁷ However, we find that our action reflected the self-execution of the will of Congress and was appropriate. We believe that eliminating the thirty-day public notice period for private fixed point-to-point microwave service applications changed neither the substantive standards under which we evaluate those applications nor removed the right to oppose those applications.⁴⁸ Entities will still have an opportunity to protest following the public notice announcing the Commission's action on the applications. Therefore, we believe that amendment of the rule to abolish the thirty-day public notice period falls comfortably within the exception for procedural rules.⁴⁹ Accordingly, we reject TIA/NSMA's argument that removal of private fixed point-to-point microwave service from Section 1.962 of our Rules required notice and comment.

⁴¹See Telecommunications Act of 1996, P.L. 104-104, 110 Stat. 56, 131 (amending 47 U.S.C. § 309(b)).

⁴²See S. Conf. Rep. No. 230, 104th Cong. 2nd. Sess. 418 (1996); see also *Part 101 Order*, 11 FCC Rcd at 13478.

⁴³47 C.F.R. § 1.962(a).

⁴⁴See *Part 101 Order*, 11 FCC Rcd at 13478.

⁴⁵TIA/NSMA Petition for Reconsideration at 10-12 (TIA/NSMA Petition).

⁴⁶See 47 C.F.R. § 1.962(g) (petition to deny must be filed no later than 30 days following public notice of the acceptance for filing of an application or substantial amendment thereto).

⁴⁷5 U.S.C. § 553(a)(A). TIA/NSMA rely on *Batterton v. Marshall*, 648 F.2d 694 (D.C. Cir. 1980). In *Batterton*, the Department of Labor modified the guidelines under which states could receive funding for an employment program, which reduced Maryland's share of funds. Maryland argued that the modification affected a substantive right – entitlement to the funds – and the Court of Appeals agreed, stating that the modification was "a conclusive agency action, governing the rights and interests of the parties," and therefore was not a rule of agency practice or procedure. *Id.* at 710. The court said, regarding the exception to notice and comment for procedural rules, "[A]n articulation of the exemption's critical feature is that it covers agency actions that do not themselves alter the rights or interests of parties, although it may alter the manner in which the parties present themselves or their viewpoints to the agency." *Id.* at 707 (citing *Pincus vs. U.S. Board of Parole*, 507 F.2d 1107, 1113 (D.C. Cir. 1974)).

⁴⁸See, e.g., *Jem Broadcasting Co., Inc. v. FCC*, 22 F.3d 320, 322, 326 (D.C. Cir. 1994) (the Commission, without notice and comment, adopted "hard look" rules which eliminated the ability of FM broadcast applicants to amend their applications to correct mistakes therein, and the Court of Appeals, citing *Batterton*, held that the rules were procedural in nature because they did not change the substantive standards by which the Commission evaluated license applications).

⁴⁹See *id.* at 326 (citing *Neighborhood TV v. FCC*, 742 F.2d 629, 637 (D.C. Cir. 1984); *Lamoille Valley R.R. Co. v. ICC*, 711 F.2d 328 (D.C. Cir. 1983)) (not every interest "qualifies" for notice and comment).

16. Although we reject TIA/NSMA's legal argument, we agree that data related to POFS applications may be useful for interested parties to ensure that proper frequency coordination has been conducted.⁵⁰ In that connection, we note that our Office of Media Relations regularly issues informal public notices prepared by the Wireless Telecommunications Bureau, Public Safety and Private Wireless Division, Licensing and Technical Analysis Branch that contain information on POFS applications. Though the informal public notices are informational only and do not confer the right to file petitions to deny, Alcatel and UTC acknowledge that these periodic notices will suffice to furnish the information previously contained in the formal public notices.⁵¹ The Commission will continue to issue the informal notices as resources permit; however, we see no need for a rule mandating the release of such public notices as TIA/NSMA request.⁵² We also note that the period covered by informal public notice of the filing of applications will necessarily decrease with implementation of the ULS.⁵³ With electronic filing and processing of applications via ULS, the time required to grant a properly prepared and filed application may be reduced to hours, not days. In that instance, awaiting public notice before grant would undercut the Commission's objective of establishing an efficient and rapid electronic licensing system.

C. Common Carrier Traffic Requirements

17. Based on comments responding to the *Part 101 Notice*, the Commission revised former Section 21.119 (now Section 101.133) of the Rules, removing the restriction that prohibited the use of common carrier transmitters to carry non-common carrier communications, except in the MDS.⁵⁴ The Commission removed the restriction to promote economic efficiencies by obviating the need for a common carrier wishing to provide non-common carrier service to construct separate facilities.⁵⁵ On the other hand, the Commission carried over, unchanged, former Section 21.705 (now Section 101.703⁵⁶), which provides that a common carrier may render any kind of communication service provided for in its tariffs so long as the kinds of communications carried do not violate the terms of the licensee's authorization or Sections 101.111 (emission limitations), 101.113 (transmitter power limitations), or 101.147 (frequency assignments) of the Rules.⁵⁷ The *Part 101 Order* also replicated, without change or discussion, subsection (c) of former Section 21.700 (now Section 101.701), which provides that common carrier applicants for facilities that will be used primarily to relay television broadcast signals must demonstrate (1) that at least fifty percent of the customers using the microwave facility will not be affiliated in any way with the

⁵⁰TIA/NSMA Petition at 9.

⁵¹Alcatel Comments on Petition for Reconsideration at 3-4 (Alcatel Comments); UTC Consolidated Comments on Petitions for Reconsideration at 3 (UTC Comments).

⁵²TIA/NSMA Petition at 12. TIA/NSMA observe that several Part 101 rules contain references to the 30-day public notice period and that such references are inappropriate given the elimination of the 30-day public notice period. Appropriate revisions to the rules are contained in Appendix B.

⁵³See *ULS Proceeding*, 13 FCC Rcd at 21031; see also 47 C.F.R. § 1.933.

⁵⁴47 C.F.R. § 101.133.

⁵⁵See *Part 101 Order*, 11 FCC Rcd at 13465-66.

⁵⁶47 C.F.R. § 101.703.

⁵⁷47 C.F.R. §§ 101.111, 101.113, 101.147.

applicant; and (2) that at least fifty percent of the usage hours of the microwave facility will be dedicated to service for unaffiliated customers.⁵⁸

18. UTC asserts that it is not clear whether common carriers must use at least fifty percent of their available capacity for common carrier traffic.⁵⁹ Although UTC was not specific as to which rule it was referring, we believe the intended reference was to Section 101.701(c). We note that the rule applies only to "stations or frequencies that will be used primarily to relay broadcast television signals," and requires that at least fifty percent of the capacity of such stations or frequencies be devoted to the carriage of traffic of customers who are not related to the licensee in any way. Accordingly, in response to UTC's request, we clarify that common carriers may carry any traffic described in Section 101.703 of our Rules, and that the fifty percent limitation in Section 101.701 applies only to common carrier microwave stations that are used "primarily to relay broadcast television signals."

D. POFS Licensees' Carriage of Common Carrier Traffic

19. In the *Part 101 Order*, the Commission declined to implement the suggestion of some commenters to delete proposed Section 101.603(b)(1) of the Rules,⁶⁰ which would allow POFS licensees to employ their excess capacity to carry common carrier traffic.⁶¹ The Commission concluded that it lacked a sufficient record to justify deleting the proposed rule, the substance of which was carried forward from certain Part 94 provisions, but it stated that it would be receptive to a request to amend the Rules to permit POFS carriage of common carrier traffic if any party wished to pursue it, although further inquiry would be required.⁶² UTC again urges us to eliminate Section 101.603(b)(1), and we again decline to do so. We do not believe that the Commission intended for the necessary inquiry to be conducted in the context of a petition for reconsideration, particularly given that such a petition usually does not stimulate – and has not here stimulated – the responsive comments necessary to create a record sufficient to justify deleting the provision. Instead, we seek comment on the issue in the *Notice of Proposed Rule Making* portion of this document.

E. Continuity of Licensing for Displaced 2 GHz Microwave Licensees

20. Our Rules provide that a Part 101 license will be forfeited automatically upon the voluntary removal or alteration of station facilities that renders the station non-operational for thirty days or longer.⁶³ In addition, a station that is inoperative for one year will be deemed to have permanently discontinued service, and the license must be surrendered.⁶⁴ C&S filed a Petition for Clarification and/or Reconsideration in which it proposed changes to these rules to exempt displaced 2 GHz incumbent licensees who relocate to another frequency band, find that frequency band unsuitable, and then wish to

⁵⁸47 C.F.R. § 101.701(c).

⁵⁹UTC Petition for Reconsideration/Clarification at 5 (UTC Petition).

⁶⁰47 C.F.R. § 101.603(b)(1).

⁶¹*Part 101 Order*, 11 FCC Rcd at 13467.

⁶²*Id.* at 13467-68.

⁶³47 C.F.R. § 101.65(a).

⁶⁴47 C.F.R. §§ 101.65(d), 101.305(d).

reactivate their original 2 GHz facilities.⁶⁵ The *C&S Petition* was endorsed by UTC.⁶⁶

21. We wish to alleviate any concern on the part of incumbent 2 GHz microwave licensees that relocation of their facilities could result in premature license termination, but we do not believe that the suggested amendments are necessary. In the normal course, an incumbent 2 GHz licensee will file an application for modification of its license to specify a different frequency band. Thereafter, the new facilities will be constructed and tested while the licensee maintains its operations in the 2 GHz band. When the new facilities are placed in operation and the 2 GHz facility is discontinued, the licensee will be operating pursuant to its modified license. Under normal circumstances, at no time during the described period will the licensee be deemed to have forfeited its license, because there will have been no discontinuation of operations that would trigger invocation of the referenced rule sections. However, C&S suggests that there may be instances in which a period of time elapses between discontinuance of 2 GHz operations and inauguration of operations in a new frequency band.⁶⁷ We believe that such instances will be rare; however, should they arise, we will look favorably upon requests for rule waivers in order to accommodate affected licensees. In sum, it is not our intent to invoke the automatic forfeiture provisions in a manner which would hamper an incumbent licensee's legitimate efforts to relocate its 2 GHz facilities.

F. Finder's Preference

22. Notwithstanding the fact that the matter was not raised in the *Part 101 Notice* or the *Part 101 Order*, Multipoint requests⁶⁸ that we establish a finder's preference program for MAS frequencies licensed under Part 101 of our Rules similar to the program formerly established under Part 90 of the Rules.⁶⁹ Multipoint argues that a finder's preference program – under which an applicant receives a preference when applying for a frequency if the applicant demonstrates that the frequency is not being used by its current licensee – would supplement the Part 101 automatic forfeiture provisions, thereby reducing "spectrum warehousing."⁷⁰ UTC agrees, but submits that this is not the proper forum for this proposal.⁷¹ We agree with UTC that Multipoint has raised a rule making proposal in the context of a petition for reconsideration which is procedurally improper because interested parties have not been given sufficient notice to comment on the issue.⁷² We are aware of the current scarcity of available MAS channels in many areas, and we recognize the importance of ensuring that frequencies are licensed to parties with an actual and immediate requirement for them. However, Multipoint's proposal exceeds scope of this *Memorandum Opinion and Order*,⁷³ so we dismiss the petition.⁷⁴

⁶⁵Cox & Smith, Inc. Petition for Clarification and/or Reconsideration at 1 (C&S Petition).

⁶⁶See UTC Petition at 9-10.

⁶⁷C&S Petition at 1-3.

⁶⁸Multipoint Petition for Reconsideration of Part 101 of the Commission's Rules at 3 (Multipoint Petition).

⁶⁹See 47 C.F.R. § 90.173(k) (1997).

⁷⁰Multipoint Petition at 3.

⁷¹UTC Comments at 5.

⁷²*Id.*

⁷³See 47 C.F.R. § 1.429; see also Amendment of Section 73.202(b), Table of Allotments, FM Broadcast Stations, *Memorandum Opinion and Order*, MM Docket No. 86-289, 4 FCC Rcd 7887 (1989).

G. Electronic Filing

23. The *Part 101 Order* noted that the proposal in the *Part 101 Notice* to allow electronic filing for all fixed microwave services authorized under Part 101⁷⁵ had been rendered moot by rule changes in another proceeding implementing the proposal, and stated that procedures for electronic filing in the Part 101 services would be implemented by Public Notice.⁷⁶ Also, the Wireless Telecommunications Bureau began use of ULS for licensing activity for microwave services on August 30, 1999.⁷⁷ Although TIA/NSMA and Alcatel endorse our commitment to electronic filing, they urge us to go further by establishing specific timetable benchmarks for implementation of electronic filing, and convening an Industry Advisory Committee to advise the Commission on the electronic filing process.⁷⁸ We deem such action to be unnecessary at this time given the actions we have taken in the context of the ULS proceeding. Electronic filing and online access are integral components of the ULS, and we recently adopted rule changes involving all aspects of the ULS filing and licensing process.⁷⁹ We will continue to keep the industry informed of significant developments in the ULS by issuing periodic Public Notices, and will be attentive to any informal comments or other communications furnished in response thereto.

H. Conditional Licensing

24. Based on comments responding to the *Part 101 Notice*, the Commission amended the Rules to permit operation prior to final license grant, subject to certain conditions, on the 4, 6, 10, 11, 18, and 23 GHz bands, except for the 10.6-10.68 GHz band; the 17.8-19.7 GHz band in Colorado, Maryland, Virginia, and the District of Columbia; and the 21.2-23.6 GHz band for operations with an effective radiated power greater than 55 dBm.⁸⁰ The Commission excluded those bands from conditional licensing because they are allocated to both government and non-government users. Thus, licensing on these frequencies must be coordinated by the Commission with the National Telecommunications and Information Administration (NTIA), and the two agencies did not have an agreement concerning conditional licensing on those frequencies.⁸¹ After such an agreement was reached regarding the 10.6-10.68 GHz band, the Wireless Telecommunications Bureau and the Office of Engineering and Technology, pursuant to delegated authority,⁸² amended Section 101.31(e) of the Commission's Rules⁸³ to provide for

⁷⁴The Commission eliminated the Part 90 finder's preference program. See Amendment of Part 90 Concerning the Commission's Finder's Preference Rules, *Report and Order*, WT Docket No. 96-199, 13 FCC Rcd 23816 (1998).

⁷⁵*Part 101 Notice*, 10 FCC Rcd at 2512.

⁷⁶*Part 101 Order*, 11 FCC Rcd at 13460.

⁷⁷See WTB to Begin Use of Universal Licensing System (ULS) for Microwave Services on August 30, 1999, DA 99-1543, *Public Notice* (rel. Aug. 6, 1999).

⁷⁸See TIA/NSMA Petition at 7; Alcatel Comments at 4.

⁷⁹See *ULS Proceeding*, 13 FCC Rcd at 21033-35.

⁸⁰*Part 101 Order*, 11 FCC Rcd at 13462-63.

⁸¹*Id.*

⁸²See *id.* at 13463.

conditional licensing in that band except in certain areas of the country where NTIA requested continued pre-operation coordination.⁸⁴ This action has mooted TIA/NSMA's request that we allow conditional licensing in that band except for specified areas of the country where government radio astronomy services are operated.⁸⁵

25. TIA/NSMA also request that conditional licensing be authorized in the 932-941, 952-960, and 2110-2200 MHz frequency bands, but did not discuss the merits of expanding conditional licensing to those bands.⁸⁶ Because we have no record concerning the potential effect of conditional licensing in the lower microwave bands, we decline the request at this time.⁸⁷

I. Correct Definition of Operational Fixed Point-to-Point Microwave Service

26. The *Part 101 Notice* proposed only minor editorial changes in the definitions to be provided in the Part 101 rules.⁸⁸ Former Section 94.3 of the Commission's Rules defined "Operational-fixed Station" as "[a] fixed station not open to public correspondence, operated by and for the sole use of those persons or agencies operating their own radio communication facilities. This term includes all stations licensed to the fixed service under this part."⁸⁹ The underlined material *supra* sets out an important and distinguishing characteristic of the POFS which the Commission inadvertently omitted when it created the new Section 101.3. In addition, this section defined "Private line service" as "[a] service whereby facilities for communication between two or more designated points are set aside for the exclusive use or availability for use of a particular customer and authorized users during stated periods of time."⁹⁰

27. We agree with AAR and Alcatel that the definitions of "Private operational fixed point-to-point microwave service" and "Private line service" in the new Section 101.3 lack the concept of "self-service" – a licensee's use of the POFS facility for its own internal communications – which was contained

⁸³ 47 C.F.R. § 101.31(e).

⁸⁴ Reorganization and Revision of Parts 1, 2, 21 and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, *Order*, WT Docket No. 94-148, 13 FCC Rcd 4394 (WTB/OET 1998). We also note that subsequent to the *Part 101 Order* the Commission permitted conditional licensing in the 18 GHz band outside certain prohibited zones. Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band for Fixed Service, *Order*, ET Docket No. 97-99, 13 FCC Rcd 3581 (1997); *see* 47 C.F.R. § 101.31(b)(1)(v), (vi).

⁸⁵ *See* TIA/NSMA Petition at 18.

⁸⁶ *See id.* at 18 n.1.

⁸⁷ We also note that not all of these frequencies are available for point-to-point or point-to-multipoint operations. The Commission suspended acceptance of applications for the 932/941 MHz and 928/959 MHz MAS in 1997. *MAS Notice*, 12 FCC Rcd at 8006-07. Also, frequencies in the 2100-2150 MHz and 2160-2200 MHz bands have been reallocated for emerging technology mobile services. *See Emerging Technologies Second Report and Order*, 8 FCC Rcd at 6496.

⁸⁸ *See Part 101 Notice*, 10 FCC Rcd at 2511.

⁸⁹ 47 C.F.R. § 94.3 (1995) (emphasis supplied).

⁹⁰ *Id.*

in the prior definition of "Operational-fixed Station" in former Section 94.3.⁹¹ We likewise agree with UTC's recommendation that the definition of "Private operational fixed point-to-point microwave service" (a) incorporate the concept of "self-service," and (b) should not refer to private line service, which UTC contends is essentially a common carrier construct with little application to private operational fixed services.⁹² Therefore, we delete the term "Private line service," and adopt UTC's suggested change to the definition of "Private operational fixed point-to-point microwave service," with minor revisions, as follows:

Private operational fixed point-to-point microwave service. A private radio service rendered by fixed and temporary fixed stations on microwave frequencies for the exclusive use or availability for use of the licensee or other eligible entities^[93] for communication between two or more designated points. Service may be provided between points within the United States, points within United States' possessions, or between the United States and points in Canada or Mexico.

J. Reduction of the Number of Remotes Required in a Multiple Address System

28. In the *Part 101 Order*, the Commission carried over the Part 94 definition of MAS into Part 101, despite some commenters' request that the requirement that MAS facilities serve at least four remotes be replaced with a provision that would require MAS systems to serve "multiple" remotes.⁹⁴ That proposal was deemed inconsistent with the Commission's determination in a prior proceeding⁹⁵ that MAS is to be used to satisfy point-to-multipoint needs, not for communication requirements that can be met using frequencies allocated for point-to-point use.⁹⁶ AAR seeks reconsideration of our decision, but presents no new data or arguments in support of its position.⁹⁷ Further, we note that we considered the substance of AAR's request in another rulemaking proceeding examining our MAS licensing approach.⁹⁸ For these reasons, we deny AAR's petition for reconsideration.

K. Loading Requirements

29. The *Part 101 Order* retained the existing transmitter capacity and loading requirements for point-to-point microwave radio systems operating in 3,700-4,200 MHz, 5,925-6,425 MHz, 6,525-6,875

⁹¹ AAR Opposition to Petition for Partial Reconsideration at 5-6 (AAR Opposition); Alcatel Comments at 7.

⁹² UTC Comments at 7.

⁹³ See 47 C.F.R. § 101.61 for further explanation of eligible entities.

⁹⁴ *Part 101 Order*, 11 FCC Rcd at 13468-69.

⁹⁵ Amendment of §§ 22.501(g)(2) and 94.65(a)(1) of the Rules and Regulations to Re-Channel the 900 MHz Multiple Address Frequencies, *Report and Order*, PR Docket No. 87-5, 3 FCC Rcd 1564 (1988).

⁹⁶ *Part 101 Order*, 11 FCC Rcd at 13469.

⁹⁷ See *WWIZ, Inc.*, 37 FCC 685, 686 (1964), *aff'd sub nom. Lorain Journal Co. v. FCC*, 351 F.2d 824 (D.C. Cir. 1965), *cert. denied*, 383 U.S. 967 (1966).

⁹⁸ See *MAS Notice*, 12 FCC Rcd at 7993; see also *MAS Further Notice*, FCC 99-101, ¶21; see also Amendment of the Commission's Rules Regarding Multiple Address Systems, WT Docket No. 97-81, *Report and Order (MAS Report and Order)*, FCC No. 99-415 (rel. Jan. 19, 2000).

MHz, 10,550-10,680 MHz, and 10,700-11,700 MHz bands.⁹⁹ The Commission declined requests to lower the standards, because weakening loading requirements likely would lead to a significant amount of licensed, but unused, spectrum, which, in turn, would reduce the availability of spectrum for displaced 2 GHz licensees.¹⁰⁰ However, the Commission stated that it would give liberal consideration to requests for waiver of the loading requirements filed by displaced 2 GHz licensees seeking to relocate in the bands above 3 GHz.¹⁰¹

30. We deny the requests of AAR, TIA/NSMA, or UTC to reconsider the loading requirements.¹⁰² These parties have failed to provide any additional justifications for their requested relief other than those rejected in the *Part 101 Order*.¹⁰³ Similarly, we reject UTC's request that we "liberally waive loading requirements" for all POFS systems.¹⁰⁴ UTC has failed to provide sufficient justification that would warrant our affording the same treatment to all POFS users as we are affording to displaced 2 GHz licensees.

L. Prior Coordination Notices with Use of ATPC

31. In the *Part 101 Order*, the Commission authorized Automatic Transmitter Power Control (ATPC)¹⁰⁵ for common carrier and POFS licensees.¹⁰⁶ However, in response to concerns expressed by some commenting parties, the Commission required applicants to notify potentially affected licensees that ATPC transmitters will be used, and to include a value for each of the following parameters on the coordination notice: (1) maximum transmit power, (2) coordinated transmit power, and (3) nominal transmit power.¹⁰⁷ TIA/NSMA and Alcatel note, however, that this requirement was not carried forward into the final rules.¹⁰⁸ We hereby remedy that inadvertent oversight by amending Section 101.103(d) in the manner suggested by TIA/NSMA.¹⁰⁹

⁹⁹*Part 101 Order*, 11 FCC Rcd at 13476.

¹⁰⁰*Id.*

¹⁰¹*Id.* (quoting *Emerging Technologies Second Report and Order*, 8 FCC Rcd at 6514).

¹⁰²AAR Petition for Partial Clarification and Reconsideration at 9-10 (AAR Petition); TIA/NSMA Petition at 21; UTC Comments at 2-3.

¹⁰³*See WWIZ, Inc.*, 37 FCC 685, 686 (1964), *aff'd sub nom. Lorain Journal Co. v. FCC*, 351 F.2d 824 (D.C. Cir. 1965), *cert. denied*, 383 U.S. 967 (1966).

¹⁰⁴UTC Comments at 2-3.

¹⁰⁵ATPC is a feature of radio transmitters which will automatically adjust the output power to keep the receive signal at a uniform level even though the path attenuation may change due to rain or atmospheric anomaly. *Part 101 Order*, 11 FCC Rcd at 13469.

¹⁰⁶*Id.* at 13470; *see* 47 C.F.R. § 101.113(b).

¹⁰⁷*Part 101 Order*, 11 FCC Rcd at 13471. These terms are defined in TIA Telecommunications Systems Bulletin TSB 10-F, "Interference Criteria for Microwave Systems," at Section 4.3.

¹⁰⁸TIA/NSMA Petition at 20; Alcatel Comments at 6.

¹⁰⁹47 C.F.R. § 101.103(d). We also clarify the terms in the formula in Section 101.143(b) for calculating

M. Clarification of Grandfathering Provisions

32. In the *Part 101 Order*, the Commission stated that systems authorized and applications filed prior to the effective date of the *Part 101 Order* would be afforded co-primary status relative to all systems authorized subsequently pursuant to the provisions of the new Part 101, and that these previously authorized stations and pending applications would be "grandfathered" in that status indefinitely.¹¹⁰ The implementing rule provides, "All systems subject to Parts 21 and 94 of the Rules, which are licensed or which are proposed in an application on file, as of the effective date of this part, are subject to the requirements under Part 21 or Part 94, as applicable."¹¹¹ We agree with TIA/NSMA that adding the word "indefinitely" to the end of the sentence will more clearly convey that the "grandfathering" afforded to the subject systems will continue indefinitely, so we amend the rule accordingly.¹¹²

N. Minor Clerical Errors and Editorial Changes in the Rules

33. Below, we treat various requests by TIA/NSMA for correction or clarification.¹¹³ Where the reason for a rule change is self-evident and clerical in nature, an appropriate revision to the rule has been incorporated into Appendix A hereto and is not treated in the body of this *Memorandum Opinion & Order*. In addition, on our own motion, we have made certain minor and non-substantive editorial changes to the rules, which we likewise believe do not require explanation. Those requested changes that merit comment are set forth *infra*.

1. Requested Changes Adopted

Section 101.31(a) – We change the title of this subsection from "Temporary authorizations" to "Operation at temporary locations," to more accurately describe its content. However, we deny TIA/NSMA's request to reduce the time in which to file an application to convert a temporary authorization into a permanent authorization from ninety days before the temporary authorization expires to sixty days, for the record does not support their assertion that ninety days is too long.

Section 101.101 – We correct various errors in the chart listing frequency bands and the services permitted on each.

Section 101.105(c)(3) – We correct the reference to the frequencies for which MAS applicants must make an interference showing to include those in Section 101.147(b)(2)-(4) of the Rules.

Section 101.113(a) – We move footnote 5 of the table listing maximum Equivalent Isotropically Radiated Power (EIRP) by frequency band from the 21,200-23,600 MHz band to the 18,800-

maximum permissible EIRP for shorter path lengths and amend the note to read as follows: "For transmitters using Automatic Transmitter Power Control, EIRP corresponds to the maximum transmitter power available, not the coordinated transmit power or the nominal transmit power."

¹¹⁰*Part 101 Order*, 11 FCC Rcd at 13477-78.

¹¹¹47 C.F.R. § 101.4(a).

¹¹²TIA/NSMA Petition at 20.

¹¹³*See id.* at 22-23.

19,700 MHz band, we change the reference in footnote 10 from Section 101.147(t) of the Rules to Section 101.147(s), and correct the maximum power listing for the bands between 31,000 MHz and 31,300 MHz.

Section 101.115(c) – We change the reference in footnote 11 of the table for Antenna Standards from Section 101.147(t) of the Rules to Section 101.147(s).

Section 101.145(a) – The references to subsections (a) and (b) of this rule are corrected to reference subsections (b) and (c).

Section 101.147(a) – We revise the table of frequency assignments in this rule to more accurately reflect the services using particular frequency bands. Other corrections to the rule already were made in another proceeding.¹¹⁴

Section 101.147(j) – We delete the obsolete reference to Part 21.

Section 101.803(a) – Most of footnote 5 applies to frequencies in the 21-23.6 GHz band, but the last sentence applies to the 14.2-14.4 GHz band. To improve clarity, we make the last sentence a separate footnote.

Section 101.803(d) – We add an entry for 11.7-12.2 GHz to ensure that the appropriate requirements apply to that band.

Section 101.815(a)(5) – We change the reference to the requirement for applications from Section 101.713 to Section 101.21(f).

2. Requested Changes Rendered Moot

Former Section 101.31(a) – TIA/NSMA's proposals regarding requests for Special Temporary Authorization (STA) have been superseded by the *ULS Proceeding's* changes to the STA rules.¹¹⁵

Section 101.31(a)(3)(vii) – The *ULS Proceeding* corrected the reference for operations to be conducted within the coordination distance contours of a fixed earth station from Section 101.21(e) to Section 101.21(f).¹¹⁶

Section 101.63(b) – The Commission stated in the *Part 101 Order* that a station would be regarded as being "'in operation' when construction is completed and the station is capable of providing service," but the rule set forth a stricter standard.¹¹⁷ We recognized the discrepancy, and deleted the inconsistent language before the rule went into effect.

¹¹⁴See Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, *First Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 95-157, 11 FCC Rcd 8825, 8917 (1996).

¹¹⁵47 C.F.R. § 1.931; see *ULS Proceeding*, 13 FCC Rcd at 21052-53.

¹¹⁶*ULS Proceeding*, 63 Fed. Reg. at 63982.

¹¹⁷*Part 101 Order*, 11 FCC Rcd at 13465.

IV. NOTICE OF PROPOSED RULEMAKING

A. Streamlining Part 101

34. We have reviewed the rules and application procedures for all microwave radio services licensed by the Wireless Telecommunications Bureau. We propose eliminating regulations that are duplicative, outmoded, or otherwise unnecessary. This will further the work begun by the consolidation of Parts 21 and 94 into a single Part 101 and the implementation of the ULS.

1. POFS licensees' carriage of common carrier traffic

35. The *Part 101 Order* eliminated the restriction on the use of common carrier transmitters for non-common carrier purposes.¹¹⁸ Licensees operating common carrier stations now may provide private services at the same location without having to construct duplicative facilities.¹¹⁹ However, the Commission declined to eliminate the rule prohibiting stations licensed as private systems from offering common carrier communications services or leasing reserve capacity to common carriers for their common carrier traffic.¹²⁰ The Commission pointed to the increased flexibility that it had given common carriers, and suggested that private licensees desiring to carry common carrier traffic as well as internal communications become common carrier licensees.¹²¹

36. We also declined to eliminate this restriction in the *Memorandum Opinion and Order* portion of this document, on the grounds that we lacked a sufficient record.¹²² UTC argues that requiring POFS licensees to become common carriers in order to carry common carrier traffic unnecessarily subjects them to onerous common carrier obligations, and that the Act, which states that "[a] telecommunications carrier shall be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services,"¹²³ dictates that POFS licensees be permitted to carry common carrier traffic without becoming common carriers.¹²⁴ We seek comment on whether we should eliminate the rule prohibiting stations licensed as private systems from offering common carrier communications services. Among the issues that commenters should address are the extent to which improved transmission techniques and increased transmission rates have created excess capacity in private systems; and whether POFS carriage of common carrier traffic should be permitted only on a secondary basis, or whether limitations should be placed on what types of common carrier traffic (*e.g.*, voice and data, but not video) could be carried on POFS systems.

¹¹⁸*Id.* at 13466.

¹¹⁹*Id.*

¹²⁰*Id.* at 13467; *see* 47 C.F.R. § 101.603(b)(1).

¹²¹*Part 101 Order*, 11 FCC Rcd at 13468.

¹²²*See supra*, ¶ 19.

¹²³*See* 47 U.S.C. § 153(49).

¹²⁴UTC Petition at 5-8.

37. Alternatively, we note that many land mobile radio licensees with wide area communication systems use operational fixed microwave systems to transmit communications between base stations in their systems. In some cases, the land mobile radio licensee is also the licensee of the microwave facilities.

In other cases, land mobile radio licensees lease excess capacity from existing microwave systems. If, however, the communications (including any land mobile communications) being carried on the microwave system is common carrier traffic, our Rules require that the microwave system be licensed as a common carrier.¹²⁵ When the Commission reclassified many land mobile radio licensees as Commercial Mobile Radio Services (CMRS), *i.e.*, common carriers, there was an unanticipated effect on some private microwave licensees.¹²⁶ For example, the reclassification of some Specialized Mobile Radio (SMR) licensees made them no longer eligible to use a POFS facility under the plain language of our Rules. Many of these private microwave systems supporting SMR and other private operations are owned by petroleum companies, utility companies, or government entities that do not want to become, or, in some cases, may be prohibited by law from becoming, common carriers.

38. It is unreasonable, unduly burdensome, and unnecessary to require SMRs and other former private operators to either duplicate their supporting facilities or seek service from a possibly unavailable common carrier. Consequently, in the event we retain the general prohibition against POFS carriage of common carrier traffic, we propose an exception to the rule to permit grandfathering of private operational fixed microwave systems providing common carrier service for their connecting facilities, or for CMRS providers that were formerly private land mobile radio service providers. We do not believe that such an exception would conflict with any other decisions the Commission has made concerning the differences between common carriers and non-common carriers.¹²⁷ We seek comment on this proposal and any alternatives thereto.¹²⁸

2. Shared bands

39. Several frequency bands are used for TV Broadcast Auxiliary Services, Cable Relay Service (CARS), Private Land Mobile Radio Service, and Fixed Microwave Services. For example, Sections 74.644, 78.108, 101.143, and 101.803(b) set out minimum path lengths and appropriate power reductions for many of the same bands.¹²⁹ However, Section 101.803(b), which regulates LTTS, requires compliance

¹²⁵See 47 C.F.R. § 101.603(b)(1).

¹²⁶See Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, *Second Report and Order*, GN Docket No. 93-252, 9 FCC Rcd 1411 (1994).

¹²⁷See generally *id.*

¹²⁸In addition, in the event we retain the general prohibition against POFS carriage of common carrier traffic, we propose to clarify Section 101.135(a), which states that entities may share their private systems with, or provide private carrier service to, "any eligible for licensing under *this part*, regardless of individual eligibility restrictions, provided that the communications being carried are permissible under § 101.603." 47 C.F.R. § 101.135(a) (emphasis added). This rule was incorporated directly from Part 94, so we believe that the reference to "this part" meant only POFS, and that the Commission did not intend to alter the distinction. See *Part 101 Order*, 11 FCC Rcd at 13467. In Part 101, however, "this part" also encompasses common carriers, so, if the prohibition is retained, we propose to clarify the rule to apply only to sharing with POFS eligibles.

¹²⁹47 C.F.R. §§ 74.644, 78.108, 101.143, 101.803(b).

with the technical rules provided in Parts 74 and 78 of our Rules, which are different from those contained in the Part 101 rules. In addition, we understand that some confusion exists concerning which technical standards govern LTTS when the Part 74 and 78 standards differ from or, in certain instances, conflict with Part 101. For instance, frequency tolerance¹³⁰ or EIRP conflicts appear at 2450-2483.5 MHz, 12700-13250 MHz, and 38600-40000 MHz. We believe that these situations can be addressed by either modifying Section 101.803(b) to state that where conflicts arise, the more restrictive rule will apply, or conforming the technical standards for all the rule parts.¹³¹ We seek comment on which approach would provide the most clarity for affected licensees.

40. Also, the 2450-2483.5 MHz band is shared by Parts 74, 78, 90, and 101 services, and is subject to differing limitations on antenna requirements, channelization, bandwidth, and type acceptance. For example, fixed microwave users under Part 101 must coordinate their use with other fixed microwave users,¹³² while broadcast auxiliary users must use local coordinators who do not coordinate with Part 101 users,¹³³ and Part 90 users are allowed uncoordinated use.¹³⁴ We seek comment on such inconsistencies regarding technical standards in shared bands, and on whether and how to resolve them.

3. Station authorization

41. Section 101.5(b) of the Commission's Rules provides information about which transmitters require authorizations.¹³⁵ It notes that a separate application must be filed for each DEMS Nodal Station, but no separate license is required for a DEMS User Station.¹³⁶ Similarly, we require a separate authorization for each MAS master station, but not for an MAS remote or mobile station.¹³⁷ Because the Rules do not clearly state this, however, we propose to amend Section 101.5(b) to state that MAS remote and mobile stations also do not require a separate authorization. We seek comment on this proposed change, and on whether any other rules need to be changed to effect this clarification.

4. Temporary and conditional authorizations

42. Section 101.31(a)(3)-(5) of the Commission's Rules requires licensees to provide certain

¹³⁰Frequency tolerance is the maximum permissible departure by the center frequency of the frequency band occupied by an emission from the assigned frequency or, by the characteristic frequency of an emission from the reference frequency. 47 C.F.R. § 101.3.

¹³¹We believe that these changes may also allow us to delete 47 C.F.R. § 101.807.

¹³²47 C.F.R. § 101.103.

¹³³47 C.F.R. § 74.604.

¹³⁴47 C.F.R. § 90.35.

¹³⁵47 C.F.R. § 101.5.

¹³⁶47 C.F.R. § 101.5(b).

¹³⁷See, e.g., Amendment of §§ 22.501(g)(2) and 94.65(a)(1) of the Rules and Regulations to Re-Channel the 900 MHz Multiple Address Frequencies, *Report and Order*, PR Docket No. 87-5, 3 FCC Rcd 1564, 1565 (1988).

technical information to the Commission regarding their conditional operations.¹³⁸ We propose to eliminate this requirement because we are not convinced that it continues to serve a regulatory purpose.

We also propose to insert language in paragraph (b) of this section to specify that an application for authority to operate a fixed station at temporary locations must specify the precise geographic area within which the operation will be confined. The area specified must be defined as a radius of operation about a given state or states, latitude/longitude, or as a rectangular area bounded by upper and lower lines of latitude and longitude. This language was formerly in Section 101.13 of the Rules and should have been moved to another section when Section 101.13 was removed.¹³⁹

43. Section 101.31(b)(1)(vii) provides that conditional authorization is granted only if the filed application does not "propose to operate . . . in the 21.2-23.6 GHz band with an [effective radiated power (ERP)] greater than 55 dBm pursuant to § 101.147(s)."¹⁴⁰ Our experience has shown that it is sometimes unclear to applicants whether conditional operation is allowed anywhere in the 21.2-23.6 GHz band, or only on the four frequencies listed in Section 101.147(s). We propose to amend Section 101.31(b)(vii) to clarify that only the four frequencies listed in Section 101.147(s) are allocated for conditional operation.¹⁴¹ With regard to other frequencies in the band, applicants must follow normal processing and await the Commission obtaining clearance from NTIA before operating.

44. Finally, we propose to make frequency bands 952.95-956.15 MHz and 956.55-959.75 MHz, which are designated for point-to-point use in Tables 9 through 11 of Section 101.147(b)(6),¹⁴² available for conditional authorization under Section 101.31(b).¹⁴³ We are not proposing any other frequencies listed in these tables because they require Interdepartment Radio Advisory Committee (IRAC) coordination with NTIA. We seek comment on these proposed changes.

5. Transmitter frequency tolerance and power limitations

45. We propose to clarify and correct the frequency tolerance table in Section 101.107(a)¹⁴⁴ by:
1) consolidating the separate columns for all fixed and base stations, mobile stations over three watts, and

¹³⁸ See 47 C.F.R. § 101.31(a)(3)-(5).

¹³⁹ C.F.R. § 101.13 (1998) was removed pursuant to the *ULS Proceeding*, 13 FCC Rcd.

¹⁴⁰ 47 C.F.R. § 101.31(b)(1)(vii) (formerly 47 C.F.R. § 101.31(e)(1)(vii)).

¹⁴¹ See Amendment of Part 94 of the Commission's Rules and Regulations to Facilitate Operation of Low Power, Limited Coverage Systems in the 22.0-23.6 GHz, *First Report and Order*, PR Docket No. 79-337, 81 FCC 2d 140 (1980); Amendment of Part 94 of the Commission's Rules and Regulations to Facilitate Operation of Low Power, Limited Coverage Systems in the 22.0-23.6 GHz, *Memorandum Opinion and Order*, General Docket No. 79-337, 87 FCC 2d 1090 (1981); Amendment of Part 94 of the Commission's Rules and Regulations to Facilitate Operation of Low Power, Limited Coverage Systems in the 22.0-23.6 GHz, *Second Report and Order*, General Docket No. 79-337, 94 FCC 2d 32 (1983).

¹⁴² 47 C.F.R. § 101.147(b)(6).

¹⁴³ 47 C.F.R. 101.31(b) (formerly 47 C.F.R. § 101.31(e)).

¹⁴⁴ 47 C.F.R. § 101.107(a).

mobile stations three watts or less, because the frequency tolerances for these three categories are the same; 2) deleting footnote 2 because it applies to equipment which is over forty years old; 3) deleting footnote 5 because the same information is contained in footnote 7; and 4) correcting certain errors in the listing of bands and tolerances. We also propose to amend the EIRP table in Section 101.113(a)¹⁴⁵ to divide the 10,550-10,680 MHz band into two separate bands: 10,550-10,600 MHz with a maximum power of 55 dBW and 10,600-10,680 MHz with a maximum power of 40 dBW, to be consistent with US footnote 265 of the Table of Frequency Allocations in Section 2.106.¹⁴⁶ We seek comment on the accuracy of these proposed changes, their compliance with the Act, and their effect on licensees.

6. Directional antennas below 932.5 MHz

46. Section 101.115(b), the substance of which was carried over from Part 21,¹⁴⁷ sets forth technical requirements for stations operating below 932.5 MHz that are required to use directional antennas.¹⁴⁸ However, the only Part 101 frequencies below 932.5 MHz are MAS frequencies,¹⁴⁹ and these stations are not required to use directional antennas.¹⁵⁰ Because it appears that Section 101.115(b) no longer applies to identifiable frequencies, we conclude that this provision no longer serves a regulatory purpose and propose to delete it on that basis.

7. Antenna polarization

47. The last sentence of Section 101.117 states, "Unless otherwise allowed, only linear polarization (horizontal or vertical) shall be used."¹⁵¹ We propose to limit this restriction to LMDS operators within 20 kilometers of their service area boundary.¹⁵² We also propose to delete the words "horizontal or vertical," because strict horizontal or vertical polarization is improbable for most of the billboard passive reflectors that we authorize. Due to reflections in the non-vertical/horizontal planes of incidence, we propose to clarify our rules to allow systems with rotated linear polarization. Rotated linear polarization is usually expressed at an angle up to +/- 89.9 degrees from vertical. We seek comment on these proposed changes.

¹⁴⁵ 47 C.F.R. § 101.113(a).

¹⁴⁶ 47 C.F.R. § 2.106.

¹⁴⁷ See 47 C.F.R. § 21.108(b) (1995).

¹⁴⁸ 47 C.F.R. § 101.115(b).

¹⁴⁹ See 47 C.F.R. § 101.101.

¹⁵⁰ See 47 C.F.R. § 101.115(c) n.2.

¹⁵¹ 47 C.F.R. § 101.117.

¹⁵² See Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, CC Docket No. 92-297, *Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking*, 12 FCC Rcd 12545, 12666 (1997).

8. Changes in regulatory status

48. In the *Part 101 Order*, the Commission stated that a private operational fixed licensee can change to a common carrier by filing appropriate tariff information as required by Part 61 and a license application form (FCC Form 601), and that no filing fee will be required.¹⁵³ We believe it would be helpful to codify this procedure for effecting a status change. We seek comment on this conclusion.

9. Frequencies

49. We propose minor clarifications and streamlining of Section 101.147, which sets out the frequencies available for fixed microwave services. It is our understanding that some applicants have been confused by which parts of the section cover MAS and which cover point-to-point operations. Thus, we propose to amend the introductory paragraph of Section 101.147(b) to clarify that it covers both, and to clarify which subsections and tables pertain to each category. We also propose to update the references throughout the Section 101.147(b) from "Domestic Public Land Mobile Radio Service" to "Public Mobile Services."¹⁵⁴ Sections 101.147(k) and 101.803(e) list the 6525-6575 MHz frequency band with a grandfathered provision which expired in 1968.¹⁵⁵ We no longer see any reason to retain this language. We seek comment on these proposed changes.

10. Frequency tolerance

50. We propose to amend Section 101.507 to provide the frequency tolerance of $\pm 0.0001\%$ for DEMS Nodal Stations and $\pm 0.0003\%$ for DEMS User Stations in the 10,550-10,680 MHz band. It appears that this was inadvertently omitted in prior rule changes. We seek comment on this proposal.

11. Stations at temporary fixed locations

51. Section 101.815(a)(1) permits temporary operation of LTTS stations for six months, but prohibits temporary operation of stations for services that are initially known to be of longer than six months' duration.¹⁵⁶ The rule allows for short-term needs or for testing purposes, but prevents applicants from using the temporary provisions to avoid having to wait for regular processing of their application for permanent authority. We propose to eliminate the prohibition of temporary operation of stations for services known to be of longer than six months' duration, and thus allow applicants to use the temporary fixed locations without restrictions provided they still file for permanent authority for stations that remain longer than six months. We believe that our processing time is sufficiently expeditious that applicants will not seek any benefit from using a temporary location to avoid regular processing delays. We further believe that broadening the scope of use of temporary fixed locations could result in a reduction of requests for special temporary authority which might otherwise be needed. We seek comment on this proposal.

¹⁵³*Part 101 Order*, 11 FCC Rcd at 13468.

¹⁵⁴See Revision and Update of Part 22 of the Public Mobile Radio Service Rules, *Report and Order*, CC Docket No. 80-57, 95 FCC 2d 769 (1983).

¹⁵⁵47 C.F.R. §§ 101.147(k), 101.803(e).

¹⁵⁶47 C.F.R. § 101.815(a)(1).

12. Use of 10.7 - 11.7 GHz frequencies for final link

52. Section 101.603(b)(3) of our Rules incorporates the prohibition, formerly found in Section 94.9(b)(3), against using POFS frequencies (except 6,425-6,525 MHz, 18,142-18,580 MHz, or above 21,200 MHz) for the final radio frequency link in the chain of transmission of program material to CATV, MDS, or MATV systems.¹⁵⁷ CAI requests that we eliminate this restriction.¹⁵⁸ It posits that we have created an "unnecessary burden" on wireless cable operators by prohibiting them from "using the 11 GHz band to connect programming headends or satellite receive facilities with their main transmitters."¹⁵⁹ Alcatel argues that using bands other than 11 GHz, or using alternative transmission media, for "final link" video transmission would be excessively expensive.¹⁶⁰ CAI and Alcatel argue that the limitation is at odds with our goal of regulatory symmetry between POFS licensees and common carriers.¹⁶¹ AAR opposes CAI's request, on the grounds that video transmission – particularly multi-channel video transmission – is highly spectrum-intensive, and allowing "final link" use of the 11 GHz band would seriously reduce the amount of 11 GHz spectrum available to incumbent licensees in the 2 GHz band that must relocate to accommodate emerging technologies.¹⁶² We also note that, since CAI filed its petition, a petition for rule making was filed that proposes to make 12 GHz frequencies available for the delivery of video programming, including "final link" use.¹⁶³ The Commission assigned a rulemaking number to this petition, RM-9257, and released a *Notice of Proposed Rulemaking* on July 14, 1999.¹⁶⁴

53. We seek comment on whether the CAI proposal is in the public interest. Commenters should address whether granting CAI's request would adversely affect the Commission's efforts to ensure that spectrum is made available for the essential services offered by displaced 2 GHz licensees. Commenters are encouraged to provide specific quantitative data regarding the impact of the removal of the final link restriction on spectrum availability for displaced 2 GHz licensees, and the relative cost of using other bands or transmission media for the final link of video transmission.¹⁶⁵

13. LMDS technical rules

¹⁵⁷See 47 C.F.R. § 101.603(b)(3).

¹⁵⁸CAI Petition at 2-4.

¹⁵⁹*Id.* at 2.

¹⁶⁰Alcatel Comments at 7.

¹⁶¹CAI Petition at 4; Alcatel Comments at 7.

¹⁶²See AAR Opposition at 5.

¹⁶³Petition for Rulemaking of OpTel, Inc. (filed April 1, 1998).

¹⁶⁴See Petition for Rulemaking to Amend Eligibility Requirements in Part 78 Regarding 12 GHz Cable Television Relay Service, *Notice of Proposed Rulemaking*, FCC 99-166, Docket 99-250 (Jul. 14, 1999).

¹⁶⁵See 47 U.S.C. § 101.109. This section contains a table of frequency bands with allowable bandwidths. Above 3700 MHz, the table lists 20 frequency bands which allow bandwidths of 10 MHz or more other than the 11 GHz band.

54. With the advent of commencement of LMDS operations, we are concerned that some Part 101 technical rules may not be fully consistent with the types of services permitted and envisioned by our LMDS rules. Specifically, we seek comment on whether the Part 101 emission mask requirement in certain circumstances may be too severe for LMDS. Section 101.111 sets forth the required attenuation; subsections (a)(2)(ii) and (iii) provide as follows for operating frequencies above 15 GHz:

(ii) For operating frequencies above 15 GHz, in any 1 MHz band, the center frequency of which is removed from the assigned frequency by more than 50 percent up to and including 250 percent of the authorized bandwidth: As specified by the following equation but in no event less than 11 decibels:

$$A = 11 + 0.4(P - 50) + 10 \log_{10} B.$$

(Attenuation greater than 56 decibels is not required.)

(iii) In any 4 kHz band, the center frequency of which is removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least $43 + 10 \log_{10}$ (mean output power in watts) decibels, or 80 decibels, whichever is the lesser attenuation.¹⁶⁶

We understand that LMDS transmitters may be being manufactured for a spectrum block rather than for discrete frequencies as point-to-point microwave systems are, and LMDS transmitters are filtered as wide as the spectrum block. We are concerned that attempting to mask each discrete frequency in accordance with Part 101 may present insurmountable logistical problems for LMDS licensees. In this connection, we seek comment on how to eliminate or mitigate such problems if they exist.

55. In order to provide LMDS operators maximum flexibility, the Commission's technical standards allow using a bandwidth up to 850 MHz in the 27.50-28.35 GHz band.¹⁶⁷ If a manufacturer designs a transmitter to operate with a bandwidth of 10 MHz, and the maximum bandwidth (850 MHz) from the table in Section 101.109 of the Commission's Rules is used in the equation above, this interpretation may create an unreasonable emission mask. We seek comment on whether the table in Section 101.109 or the approach in Section 101.111 of the Commission's Rules should be changed to indicate that LMDS equipment manufacturers can specify and use the actual bandwidth of the designed transmitter.

56. The method of calculating an emission mask in Section 101.111 as a function of power works well for high powered transmitters. However, the same method of calculation for low powered transmitters can result in out-of-band emissions that may be unnecessarily low. For instance, Bosch Telecom, Inc. (Bosch), a manufacturer of telecommunications equipment, suggests adopting a minimum limit for out-of-band emissions of -13 dBm.¹⁶⁸ We seek comment on this suggestion. We also seek

¹⁶⁶ 47 C.F.R. § 101.111(a)(2)(ii), (iii). P = percent removed from the carrier frequency, and B = authorized bandwidth in MHz.

¹⁶⁷ See 47 U.S.C. § 101.109(c).

¹⁶⁸ Letter from David E. Hilliard and Thomas S. Dombrowsky, Jr. (Engineering Advisor) of Wiley, Rein & Fielding, counsel for Bosch, to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, at 3-5 (Jan. 27, 1999).

comment on whether there are other technical rules applicable to LMDS which should be changed and the reasons therefor. Further, we ask commenters whether other Part 101 services require unique technical rules. If so, commenters should discuss the substance of such rules and the reasons therefor.

57. In addition, we note that Section 101.139 indicates that point-to-multipoint transmitters in the 39 GHz, LMDS and DEMS services must be of a type that has been certificated by the Commission, but most other fixed point-to-point microwave transmitters are subject to the less burdensome¹⁶⁹ verification procedure.¹⁷⁰ Digital Microwave Corporation (Digital), a manufacturer of fixed microwave equipment, contends that LMDS and DEMS transmitters are comparable to other fixed point-to-point microwave transmitters, and proposes that they also be subject to verification rather than certification.¹⁷¹ We tentatively agree that the equipment is sufficiently similar to permit the marketing of fixed point-to-point and point-to-multipoint transmitters for the 39 GHz, LMDS, and DEMS bands that have been verified by the manufacturer or importer, rather than certificated by the Commission. We seek comment on this proposal.

B. TIA Petition for Rulemaking

58. On March 6, 1998, TIA filed a Petition for Rulemaking which focuses on permitting conditional authorization in the 21.2-23.6 GHz band (the 23 GHz band), making the 23 GHz band more accessible to fixed service users, and modifying antenna standards for the 10 GHz and 23 GHz bands to allow for more hops and longer paths.¹⁷² TIA argues that such revisions will make the 23 GHz band more attractive to fixed microwave users, which in turn will help alleviate overcrowding in other bands.¹⁷³ TIA also proposes minor corrections to the Table of Maximum Authorized Bandwidth in Part 101, Subparts C and J.¹⁷⁴ The petition was placed on Public Notice on February 5, 1999.¹⁷⁵ Eight comments and two reply comments were received, primarily from microwave equipment manufacturers and service providers, and generally in support of TIA's proposals.¹⁷⁶

1. Conditional authorization

59. TIA proposes that we permit conditional licensing in the 23 GHz band. The band is allocated

¹⁶⁹Compare 47 C.F.R. § 2.952 with 47 C.F.R. § 2.1053.

¹⁷⁰47 C.F.R. § 101.139(a).

¹⁷¹Digital Request for Partial Waiver of Section 101.139(a) (filed May 28, 1999).

¹⁷²TIA also proposes rule changes to Part 74, Television Broadcast Auxiliary Service, to permit transport of digital transmissions over point-to-point microwave frequencies in that service, but these proposals are beyond the scope of this proceeding and will be handled in a separate proceeding.

¹⁷³TIA Petition at 2-3; *see also* Alcatel Comments at 1.

¹⁷⁴TIA Petition at 25.

¹⁷⁵Public Notice, Report No. 2309 (rel. Feb. 5, 1999).

¹⁷⁶A list of commenters is provided in Appendix A.

to both government and non-government users, so licensing on these frequencies must be coordinated with NTIA. TIA argues that the current coordination process takes too long, discouraging licensees from using the 23 GHz band.¹⁷⁷ It proposes to protect government operations by means of the same procedure used for coordination among non-government users.¹⁷⁸ Specifically, a commercial frequency coordinator would send a prior coordination notice (PCN) to IRAC.¹⁷⁹ The federal government agencies, through IRAC, would have thirty days to examine the application and notify the commercial coordinator of potential interference problems.¹⁸⁰ If no response is made, coordination would be deemed to have been completed, and an application could be submitted to the Commission and operation could commence.¹⁸¹ If interference problems were identified, but were resolved between the commercial and government frequency coordinators during the thirty-day period, then the operator could submit a license application to the Commission and begin operation.¹⁸² If the identified interference problems remain after the thirty-day period, then conditional licensing would not be permitted and an operator would have to select alternative frequencies, or it would have to request resolution of the problem through the formal licensing process.¹⁸³ TIA recognizes that its plan can be adopted only if the Commission and NTIA reach an agreement consistent with the proposals.¹⁸⁴

60. Alcatel supports the proposal, arguing that permitting more rapid delivery of services would encourage greater use of the 23 GHz band.¹⁸⁵ Digital and Harris Corporation (Harris) would support the proposal if the Commission and NTIA reached an agreement regarding conditional licensing in the 23 GHz band.¹⁸⁶ On the other hand, Teledesic LLC (Teledesic), a satellite operator, questions whether expanding conditional licensing in the 23 GHz band -- or otherwise encouraging rapid development of the band -- is appropriate, given that it is not clear whether replacement spectrum will be required for the relocation of incumbent fixed microwave users in the 18 GHz band.¹⁸⁷ TIA replies that making the 23 GHz band more

¹⁷⁷TIA Petition at 12-13.

¹⁷⁸*Id.* at 12 n.18 (citing 47 C.F.R. § 101.103(d)). TIA also proposes establishing exclusion areas around sensitive Government operations, where conditional licensing would not be permitted. *Id.* at 13.

¹⁷⁹*Id.* at 13. In the alternative, TIA suggests that the PCN could be sent to each affected Government agency directly, rather than to IRAC. *Id.* at 14 n.21. Digital Microwave Corporation and Harris Corporation suggest omitting use of PCNs, and having the Commission transmit the 23 GHz application itself to IRAC. Digital Microwave Corporation Comments at 5; Harris Corporation Comments at 6.

¹⁸⁰TIA Petition at 13.

¹⁸¹*Id.* at 14.

¹⁸²*Id.*

¹⁸³*Id.*

¹⁸⁴*See id.* at 15.

¹⁸⁵Alcatel Comments at 4-5.

¹⁸⁶Digital Comments at 5; Harris Comments at 5.

¹⁸⁷Teledesic Comments at 3-4 (discussing Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing

attractive will reduce the use of the 18 GHz band, and make the 23 GHz band a more viable relocation band.¹⁸⁸

61. As we noted in the *Memorandum Opinion and Order*, the Commission concluded in the *Part 101 Order* that conditional licensing should not be permitted in the 23 GHz band because use of these frequencies must be coordinated by the Commission with NTIA, and the two agencies did not have an agreement concerning conditional licensing on those frequencies.¹⁸⁹ The agencies have reached agreements concerning conditional licensing in other bands, but not regarding the 23 GHz band.¹⁹⁰ We agree with TIA that permitting conditional licensing absent such an agreement is inappropriate, and we will continue to work toward an agreement. Until such time, however, we decline to propose any rules changes for conditional licensing in the 23 GHz band. We seek comment on our approach.

2. Technical standards

62. When the 23 GHz rules were adopted, the Commission did not incorporate complete technical standards in order to afford the industry opportunity to develop. TIA proposes several changes to the 23 GHz technical rules that it contends will facilitate greater exploitation of the band.¹⁹¹ We believe that the industry is now mature enough to incorporate complete standards, such as TIA has proposed.

a. Channel plan

63. Our rules do not specify a channel plan for the 23 GHz band.¹⁹² TIA argues that a channel plan will make the band more efficient, and thus more attractive for short-haul fixed microwave service

of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, *Notice of Proposed Rulemaking*, IB Docket No. 98-172, 13 FCC Rcd 19923 (1998)).

¹⁸⁸TIA Reply Comments at 8.

¹⁸⁹*See supra*, ¶ 24 (citing *Part 101 Order*, 11 FCC Rcd at 13462-63). Conditional licensing is permitted on four frequencies in the band, provided that the ERP does not exceed 55 dBm. 47 C.F.R. §§ 101.31(b)(vii) (formerly 47 C.F.R. § 101.31(e)(vii)), 101.147(s); *see supra*, ¶ 24.

¹⁹⁰*See* Reorganization and Revision of Parts 1, 2, 21 and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, *Order*, WT Docket No. 94-148, 13 FCC Rcd 4394 (WTB/OET 1998); Amendment of the Commission's Rules to Relocate the Digital Electronic Message Service From the 18 GHz Band to the 24 GHz Band and to Allocate the 24 GHz Band for Fixed Service, *Order*, ET Docket No. 97-99, 13 FCC Rcd 3581 (1997).

¹⁹¹TIA Petition at 15. In order to minimize any adverse impact that these new rules would have on licensees of existing systems and on equipment manufacturers, TIA proposes that the Commission establish an 18-month transition period before manufacturers would be required to meet the new standards, and a 24-month transition period before new installations would have to meet the new standards. *Id.* at 16 n.23. Under TIA's proposal, fixed microwave service stations applied for or licensed by the end of the transition period would be grandfathered indefinitely under the current rules, provided that they do not cause harmful interference to other licensees. *Id.*

¹⁹²*Id.* at 16.

users.¹⁹³ TIA's proposed plan, as a general matter, is based upon the current industry standard 50 MHz channel plan, but, given the availability of more spectrally efficient digital fixed microwave service radios, it also includes narrow and wideband channels to provide flexibility and to increase the number of potential users.¹⁹⁴ Specifically, the plan consists of twenty-four pairs of 50 MHz channels, each subdivided into wideband channels (*i.e.*, one 40 MHz channel, one 30 MHz channel, two 20 MHz channels and five 10 MHz channels) and into narrowband channels (*i.e.*, ten 5 MHz channels and twenty 2.5 MHz channels).¹⁹⁵ The center 10 MHz channel in each 50 MHz block would have the same frequency as the associated 50 MHz channel, which would permit upgrades in channel capacity without a frequency change.¹⁹⁶ TIA states that no overlap would be created between the existing 50 MHz channels and the new channels, allowing for an orderly transition to the new plan without causing interference to existing systems; and that the plan would enhance flexibility and spectrum efficiency by avoiding the need to use 50 MHz channels for all needs above 20 MHz.¹⁹⁷ TIA also recommends reserving several portions of the 23 GHz band for narrowband channels, which could be used for wideband traffic only if all other wideband channels are blocked.¹⁹⁸ Finally, TIA proposes making the entire band available to common carrier and POFS users, instead of the current system of reserving half of the band for each.¹⁹⁹

64. Alcatel supports these proposals, on the basis that implementation of a channel plan would promote efficiency, while flexibility would attract a broad range of users to the band.²⁰⁰ Digital and Harris agree, and state that a standardized channel plan will facilitate the design and manufacture of 23 GHz equipment.²⁰¹ They also note that giving common carrier and POFS users access to the entire band is consistent with the consolidation of the rules into a single Part 101.²⁰²

65. We seek comment on TIA's proposals, their compliance with the Act, and their effect on licensees. We also note that the Commission routinely licenses duplex point-to-point private systems which use one channel for video and one channel for control where the control frequency is separated from the

¹⁹³ *Id.*

¹⁹⁴ *Id.* at 17.

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ *Id.* at 17-18.

¹⁹⁸ *Id.* at 18. The frequencies selected for narrowband channels are the highest numbered channels in the common carrier and POFS segments of the 23 GHz band, which TIA states are the least congested frequencies in the band since frequency planners tend to select the lowest numbered frequencies first. *Id.* at 18 n.28.

¹⁹⁹ *Id.* at 18 n.27.

²⁰⁰ Alcatel Comments at 6.

²⁰¹ Digital Comments at 3; Harris Comments at 3.

²⁰² Digital Comments at 4; Harris Comments at 4-5.

video frequency by 50 MHz.²⁰³ These systems are typically used for surveillance or security systems. We seek comment on whether to continue to license these systems, and how TIA's proposed channel plan would affect these users.

b. Frequency tolerance

66. Our current rules specify the frequency tolerance for the 23 GHz band at 0.03%.²⁰⁴ TIA contends that when this standard was adopted most 23 GHz band radios used analog modulation techniques and were coordinated for the full 50 MHz channel bandwidth, but today most licensed radios are digital and occupy 75% or more of the channel bandwidth.²⁰⁵ TIA states that, for these digital radios, the 0.03% frequency tolerance specification would allow excessive frequency drift into adjacent channels if the band is divided into 50, 40, 30, 20, 10, 5, and 2.5 MHz channels, and that this would cause spectrum inefficiency.²⁰⁶ TIA recommends applying to the 23 GHz band the same 0.001% frequency tolerance standard that is used for the 18 GHz band (which is divided into narrowband channels comparable to those proposed for the 23 GHz band).²⁰⁷ Alcatel, Digital, and Harris support this proposal.²⁰⁸ No one opposed TIA's proposal. We seek comment on TIA's proposal, its compliance with the Act, and its effect on licensees.

c. Spectrum efficiency

67. TIA argues that the current lack of a spectrum efficiency requirement for the 23 GHz band impedes efficient utilization.²⁰⁹ Our rules require a 1 bps/Hz spectrum efficiency rate for all frequency bands below 19.7 GHz and for DEMS.²¹⁰ TIA contends that this standard also is appropriate for the 23 GHz band (and for all bands below 25.25 GHz), because it would ensure that all proposed bandwidths are fully utilized and because the digital 18 GHz band radio models that likely would be retrofitted for 23 GHz band operation are designed to this standard.²¹¹ Alcatel, Digital, and Harris agree.²¹² No one opposed TIA's proposal. We seek comment on TIA's proposal.

²⁰³See 47 C.F.R. § 101.147(s).

²⁰⁴47 C.F.R. § 101.107(a).

²⁰⁵TIA Petition at 18-19.

²⁰⁶*Id.* at 19.

²⁰⁷*Id.*

²⁰⁸Alcatel Comments at 6-7; Digital Comments at 3; Harris Comments at 3.

²⁰⁹TIA Petition at 19.

²¹⁰47 C.F.R. § 101.141(a).

²¹¹TIA Petition at 20.

²¹²Alcatel Comments at 7; Digital Comments at 3; Harris Comments at 3-4.

d. Low power systems

68. TIA claims that the 23 GHz frequencies set aside for low power, limited coverage systems, such as perimeter surveillance applications and remote video monitoring, are severely congested.²¹³ Accordingly, TIA proposes designating an additional 200 MHz in the band for such operations, adjacent to the current low power band in the 21.8-22.0 GHz and 23.0-23.2 GHz band segments.²¹⁴ Digital, Harris, and Teledesic support this proposal.²¹⁵ No one opposed TIA's proposal.

69. In addition, TIA states that the Part 101 requirements for these low power, limited coverage systems are not congruent with their operations and should be revised as follows:²¹⁶

- ◆ Maximum Power Definition -- Change the maximum power from 55 dBm ERP²¹⁷ to 55 dBm EIRP, because the maximum power for fixed microwave service systems is expressed as EIRP, and ERP is appropriate for mobile, not fixed, services.²¹⁸
- ◆ Frequency Tolerance -- Apply the proposed 0.001% frequency tolerance standard to all systems, including low power, limited systems, rather than the current 0.05% standard for such systems.²¹⁹
- ◆ Special Showings -- Delete as no longer necessary the requirement that an applicant make a showing of need in order to be authorized to operate with a 50 MHz bandwidth or to have more than five hops in tandem.²²⁰
- ◆ Interference Criteria -- Use a uniform frequency coordination procedure for all services in the 23 GHz band, and thus delete the specific additional interference criteria for low power, limited coverage systems, which, according to TIA, typical radios already meet, anyway.²²¹

²¹³TIA Petition at 20.

²¹⁴*Id.* at 20-21. TIA would reserve these frequencies primarily for narrowband systems, but permit wideband systems also if no other appropriate frequencies are available. *Id.* at 21 & n.31.

²¹⁵Digital Comments at 4-5; Harris Comments at 5; Teledesic Comments at 3.

²¹⁶TIA Petition at 21-22.

²¹⁷47 C.F.R. § 101.147(s)(1).

²¹⁸ERP is a term of reference to dipole, yagi, or other base and mobile antennas, while EIRP refers to isotropic radiators such as parabolic microwave antennas.

²¹⁹47 C.F.R. § 101.147(s)(3).

²²⁰47 C.F.R. § 101.147(s)(5), (6).

²²¹47 C.F.R. § 101.147(s)(7).

Alcatel supports making the standards uniform for all 23 GHz band systems, because this will ensure more efficient use.²²² No one opposed TIA's proposal. We seek comment on TIA's proposals.

3. Antenna standards for the 23 GHz and 10 GHz bands

70. TIA states that many fixed microwave users need or prefer to employ small antennas because most potential antenna sites, such as rooftops, monopoles, and electrical transmission towers, cannot support large microwave dishes, due to either space limitations or aesthetic objections of homeowner associations or zoning boards.²²³ Our rules, however, do not permit antennas smaller than 0.61 meters (2 feet) in diameter in the 23 GHz band, or 1.22 meters (4 feet) in diameter in the 10 GHz band.²²⁴ TIA believes that the existing antenna size restrictions deter fixed microwave service use of these bands.²²⁵ It recommends permitting 0.46-meter (18-inch) or 0.30 meter (1-foot) high performance antennas in the 23 GHz band, and 0.61-meter (2-foot) or 1.22-meter (4-foot) antennas in the 10 GHz band.²²⁶

71. To permit 0.46-meter (18-inch) or 0.30-meter (1-foot) diameter antennas in the 23 GHz band, which will accommodate what TIA expects will be an increased need for short (*i.e.*, one-to-two miles) microcell interconnect and LMDS infrastructure link point-to-point microwave paths, TIA recommends that the Commission take the following actions:²²⁷

- ◆ Change the minimum antenna gain from 38 dBi to 33.5 dBi.
- ◆ Change the maximum beamwidth from 2.2 to 3.3 degrees.
- ◆ Retain the same front-to-back ratios as the current Category A and Category B radiation standards, tighten the Category B front-to-back ratio, and reduce the sidelobe suppression requirements.²²⁸

72. To permit 0.61 kilometer (2-foot) antennas in the 10 GHz band, which would accommodate paths longer than 2.3 miles, TIA proposes that the Commission take the following actions:²²⁹

²²²Alcatel Comments at 7; *see also* Digital Comments at 5; Harris Comments at 5.

²²³TIA Petition at 22.

²²⁴47 C.F.R. §§ 101.115, 101.147(s).

²²⁵TIA Petition at 22.

²²⁶*Id.* at 23.

²²⁷*Id.* at 23-24; TIA Reply Comments at 7.

²²⁸The 0.46-meter (18-inch) diameter antenna would qualify under Category A and the 0.30-meter (1-foot) diameter antennas would qualify under Category B. TIA Petition at 24.

²²⁹*Id.* at 24-25; TIA Reply Comments at 7.

- ◆ Change the minimum antenna gain from 38 dBi to 33.5 dBi.²³⁰
- ◆ Change the maximum beamwidth from 3.4 to 3.5 degrees so that there would be a uniform beamwidth for all 10 GHz Band systems.
- ◆ Change the radiation standards for Category A and Category B to the same standards that applied for the 10.55-10.68 GHz band before June 1, 1997,²³¹ tighten the front-to-back ratio for Category B channels, and reduce the sidelobe suppression requirements.²³²

73. Alcatel, Andrew Corporation, Digital, and Harris support these proposals, because permitting smaller antennas will encourage greater use of the 23 GHz band.²³³ AirTouch Communications, Inc. believes that the proposals strike a fair balance between spectrum efficiency and the practical problems of antenna deployment.²³⁴ To the extent that implementation of TIA's suggestions would result in greater spectrum efficiency and effective use of the 23 GHz band, we believe that adoption of TIA's proposals which have the effect of allowing smaller antennas would further the public interest. We seek comment on TIA's proposals and their effect on licensees.

C. Balanced Budget Act of 1997

74. In addition to the foregoing technical issues, we also seek comment on the impact of the Balanced Budget Act on Part 101. In paragraph 11, *supra*, we discussed the Balanced Budget Act amendment to Section 309(j) which provides that all mutually exclusive applications for initial licenses or construction permits *shall* be auctioned, except licenses and construction permits for public safety radio services, digital television service for existing analog television licensees, and noncommercial educational radio and television stations. We also discussed Section 309(j)(6)(E) of the Communications Act which states that, in determining the auctionability of applications, the Commission has the "obligation in the public interest to continue to use engineering solutions, negotiation, threshold qualifications, service regulations, and other means to avoid mutual exclusivity in application and licensing proceedings." In another proceeding, we requested comment on how to implement the Balanced Budget Act of 1997 generally.²³⁵ We sought comment on, *inter alia*, how the Balanced Budget Act's revision of our statutory auction authority affects our determination of which wireless services are potentially auctionable and our

²³⁰This is consistent with the Commission's recent decision regarding directional antennas. See Amendment of Parts 74, 78, 101 of the Commission's Rules to Adopt More Flexible Standards for Directional Microwave Antennas, *Report and Order*, ET Docket No. 96-35, 12 FCC Rcd 1016, 1035 (1997).

²³¹See 47 C.F.R. § 101.115 (1996).

²³²These new radiation standards would permit use of a shrouded 3.7 kilometer (2-foot) high performance antenna to meet Category A specifications and an unshrouded 1.22 meter (4-foot) standard antenna to meet Category B specifications. TIA Petition at 25.

²³³Alcatel Comments at 7-8; Andrew Corporation Comments at 3; Digital Comments at 4; Harris Comments at 4.

²³⁴AirTouch Communications Comments at 2.

²³⁵See *BBA Notice*, FCC 99-52.

determinations of the appropriate licensing schemes for new and existing services.²³⁶ We also requested comment on the scope of the exemption from competitive bidding for public safety radio services, and on what regulatory provisions could be established to ensure that frequencies assigned without auctions meet the statutory requirements for exemption.²³⁷ We also stated, however, that we would continue to establish licensing schemes on a service-specific basis, in order to take into account the particular characteristics, purposes, and technologies of each service.²³⁸

1. Above 2 GHz microwave licensing

75. We believe that the microwave spectrum above 2 GHz which is not already licensed pursuant to auction procedures presents a special challenge to our reinvention efforts to find spectrum for emerging technologies because it is used for a wide variety of services ranging from the earliest and most traditional to the latest fixed microwave technologies. Currently, we license this spectrum by channel or channels and site-by-site. Applicants are responsible for coordinating interference issues prior to filing a license application. Therefore, under the current licensing scheme, mutually exclusive situations rarely, if ever, occur. In Part 101 licensing generally there are no discrete services as, for example, LMDS, MAS, or the 39 GHz band, but instead licensing is based on the specific use of specific frequencies.²³⁹ The lower frequency bands are significantly encumbered, particularly in urban areas, and the relocation of 2 GHz microwave licensees into the 6 GHz and 11 GHz bands has further burdened this spectrum. Satellite interests also are allocated some of the spectrum above 2 GHz, and with the expansion of satellite services, options for those needing terrestrial microwave spectrum are shrinking.

76. While spectrum above 2 GHz is becoming scarcer, demand for it is growing. Microwave is used as the backbone infrastructure for cellular, PCS, and other CMRS providers, which are expanding rapidly. Microwave spectrum may also be used for fixed point-to-multipoint service backbone support, such as for LMDS. Finally, the spectrum above 2 GHz is fertile ground for advanced telecommunications applications.²⁴⁰ These competing forces must be addressed in our effort to comply with the Congressional intent to ensure that spectrum is used for the purposes the public interest requires.

77. Accordingly, we seek comment on how we might modify Part 101 general licensing to ensure that it is consistent with our implementation of the Balanced Budget Act of 1997 in other proceedings. We seek comment on several options, discussed below, and we also seek additional options from commenters.

- Option I: Similar to the Commission's approach in the 39 GHz band proceeding, we could license microwave spectrum subject to Part 101 based on an appropriate channelization plan and geographic service area through the use of competitive bidding procedures to choose among mutually

²³⁶*Id.*, ¶ 1.

²³⁷*Id.*

²³⁸*Id.*, ¶ 74.

²³⁹See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans In a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, *Notice of Inquiry*, CC Docket 98-146, 13 FCC Rcd 15280, 15308 (1998).

²⁴⁰See *id.* at 15294-301.

exclusive applications. Under this approach, incumbent licensees would retain primary status for their current licenses but could not expand their service areas without the consent of the appropriate geographic area licensee. Also, where spectrum is licensed on a geographic basis, prior coordination in the traditional manner outlined in Section 101.103(d)²⁴¹ is not always necessary. Instead, coordination between or among geographic licensees will require the licensees in each geographic area to develop agreements with each other on how to utilize their spectrum, especially along the boundaries between areas and/or where there is line-of-sight into another area, to achieve the most efficient and effective use in each geographic area.

- Option II: Similar to the Commission's approach regarding PCS and incumbent 2 GHz microwave licensees, we could relocate licensees so that spectrum is free and clear for licensing by competitive bidding, using an appropriate channelization plan and geographic service area. Under this approach, a spectrum "home" for the relocated licensees would have to be identified.

- Option III: Similar to our action in the LMDS proceeding regarding 31 GHz band incumbent licensees, we could identify certain bands in which incumbents could retain co-primary status; and other bands in which incumbents would have secondary status vis-a-vis new licensees authorized pursuant to a licensing scheme based on a channelization plan and geographic service area, and assigned by competitive bidding procedures. These types of usage raise questions about how spectrum can be shared and whether two co-primary users can successfully share spectrum. We will not address specific sharing issues in this proceeding that are already under consideration elsewhere. However, we invite comment generally as to changes to our rules that could facilitate the technology to better enable sharing of the spectrum between terrestrial fixed and satellite services. Also, should we establish restrictions on whether the satellite earth stations should be located outside of major cities where microwave routes are most valuable, and whether auctions should determine which service is primary and which is secondary? The following are some examples of proposed sharing:

- One proposed reuse of existing Direct Broadcast Satellite (DBS) spectrum in the 12.2-12.7 GHz band is for terrestrial video use as outlined in the Broadwave Albany, L.L.C. waiver requests.²⁴² Broadwave seeks co-primary status authority to provide multichannel video programming, including the retransmission of local television broadcast signals, to approximately 212 markets throughout the United States. Broadwave also proposes to provide internet services to consumers in these various markets. We note that the 12.2-12.7 GHz band is the subject of an ongoing rulemaking proceeding²⁴³ and was one of the bands listed in the International Bureau's Public Notice No. SPB-141, released on November 2, 1998, establishing a final cut-off date to file applications for non-geostationary satellite orbit fixed satellite service in the 12.2-12.7 GHz frequency band that may be mutually exclusive with previously filed applications of Skybridge, L.L.C. (Skybridge).
- Another situation is the proposed sharing of frequency bands between satellite users and fixed

²⁴¹47 C.F.R. § 101.103(d). This section specifies traditional coordination procedures for site-based facilities.

²⁴²See Wireless Telecommunications Bureau Seeks Comment on Broadwave Albany, L.L.C. *et al.* Requests for Waiver of Part 101 Rules, *Corrected Public Notice*, DA 99-494 (WTB rel. Mar. 11, 1999).

²⁴³See Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range and Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates, *Notice of Proposed Rulemaking*, ET Docket No. 98-206, 14 FCC Rcd 1131 (1998).

terrestrial systems. The Commission has several requests before it concerning the sharing of terrestrial spectrum with mobile satellite service (MSS) offerings for feeder links (*e.g.*, applications have been received from Constellation II in the 5091-5250 MHz and 6700-7075 MHz bands, from ICO in the 5150-5250 MHz band, from Iridium Macrocell in the 19.3-19.7 GHz and 29.1-29.5 GHz bands, and from Boeing in the 11.597-11.7 GHz band).²⁴⁴

- Option IV: We could retain the current licensing approach utilizing a variety of channelization plans and site-by-site licensing, but establish new competitive bidding procedures to resolve mutually exclusive applications.

With respect to what auction rules would be needed, we propose to adhere to our general Part 1 competitive bidding rules,²⁴⁵ but to address auction design and methodology on a service-by-service basis.²⁴⁶

78. The above options would require rules to address the statutory exemptions from auctionability,²⁴⁷ for bidding credits, for appropriate eligibility, and for the appropriate channelization plan and geographic service area or areas to meet the licensing needs of entities seeking microwave spectrum. What size should the geographic service areas be? Should there be more than one size of geographic service area, and if so, what should they be? Should there be nationwide licenses available, or will combinatorial bidding, which allows bidders to place single bids for groups of licenses, satisfy the need for nationwide backbone systems?²⁴⁸ What size should the channels subject to auction be? Should the channel plan differ by frequency band? Should licensees have the freedom to combine such channels and to engage in unlimited disaggregation? Should the channels be structured for broadband use, or should licensees desiring broadband spectrum be required to seek and combine two or more narrowband licenses? How should eligibility be structured? Should the Commission establish spectrum caps? Should the channel plan continue to provide separate spectrum blocks for private and common carrier licensees, or is this distinction no longer necessary in light of the consolidation of the service rules into a single Part 101 (*but see* discussion regarding exempt categories, *infra*)?

79. We also seek comment on the economic impact that the licensing options would have on licensees, on customers, and on the availability of communications services. Our policy is to construct a licensing scheme that permits the market to ensure that spectrum is used efficiently and effectively. We seek comment on how a new licensing scheme for general Part 101 spectrum might affect the current distribution of microwave spectrum. Would spectrum continue to be made available for advanced telecommunications services? What would be the effect on PCS, LMDS, and other new services? What would be the effect on the 2 GHz microwave incumbents who are relocating pursuant to PCS licensing? Would the cost of providing other services now reliant on spectrum above the 2 GHz bands for backbone

²⁴⁴See The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, IB Docket No. 99-81, *Notice of Proposed Rulemaking*, 14 FCC Rcd 4843 (1999).

²⁴⁵See generally Amendment of Part 1 of the Commission's Rules -- Competitive Bidding Procedures, *Third Report and Order and Second Further Notice of Proposed Rule Making*, 13 FCC Rcd 374 (1997).

²⁴⁶*BBA Notice*, 14 FCC Rcd at 5243 ¶ 74.

²⁴⁷47 U.S.C. § 309(j)(1), (2) (as amended by Balanced Budget Act § 3002).

²⁴⁸See *id.*, ¶ 78.

support increase, and if so, what would be the effect of such a cost increase? Are alternatives to microwave links, such as satellite and fiber, able to accommodate any migration of demand from microwave spectrum? What are the relative costs of these alternatives?

2. Public safety exemption

80. The Balanced Budget Act exempted from the Commission's competitive bidding authority licenses and construction permits for "public safety radio services," which are defined in the statute to include "private internal radio services used by State and local governments and non-government entities and including emergency road services provided by not-for-profit organizations, that--(i) are used to protect the safety of life, health, or property; and (ii) are not made commercially available to the public."²⁴⁹

81. We invite comments on the following issues:

- Do any of the services licensed under Part 101 come within the Balanced Budget Act's definition of "public safety radio services"? Commenters are encouraged to submit quantitative information regarding: 1) how much of the use is by Public Safety Pool eligibles²⁵⁰; 2) how much is for services that meet the Balanced Budget Act's definition of "public safety radio services," but are not included in the Public Safety Pool; and 3) what future use will be. Should these two classes of public safety radio services be consolidated for purposes of allocating microwave spectrum, or kept separate? We particularly seek comment regarding the proper treatment of spectrum such as the frequencies between 2,450 MHz and 2,500 MHz, which currently are available for public safety use on a shared basis with other services.²⁵¹

- In the general Balanced Budget Act proceeding, we sought comment on whether to designate certain radio services or classes of frequencies within certain services as "public safety radio services."²⁵² In this *Notice*, we specifically ask for comment on whether any Part 101 spectrum should be designated for public safety radio services, and, if such designation is warranted, how much spectrum should be set aside. How many spectrum blocks should there be, and how large should they be? Should separate blocks be set aside for traditional public safety services and other entities falling within the exemption, or should all auction-exempt services share spectrum? How should mutually exclusive applications be avoided or resolved?

- If spectrum is set aside, should incumbents be protected with primary status, allowed to remain with secondary status, or relocated? If incumbents are relocated, who should bear the cost?

3. Educational broadcaster exemption

82. The Balanced Budget Act exempted from the Commission's competitive bidding authority

²⁴⁹47 U.S.C. § 309(j)(2)(A). See, e.g., 47 C.F.R. Part 90, Subpart B; see also H.R. Conf. Rep. No. 105-217, 105th Cong., 1st Sess., 572 (1997) (*Conference Report*). In the *Conference Report* these changes are further elaborated.

²⁵⁰See 47 C.F.R. § 90.20.

²⁵¹47 C.F.R. § 90.20(d)(73).

²⁵²*BBA Notice*, 14 FCC Rcd at 5224 ¶ 30.

licenses and construction permits for "stations described in section 397(6) of this Act,"²⁵³ which defines "noncommercial educational broadcast station" and "public broadcast station" to mean "a television or radio broadcast station" that is "eligible to be licensed by the Commission as a noncommercial educational radio or television broadcast station and which is owned and operated by a public agency or nonprofit private foundation, corporation, or association,"²⁵⁴ or "is owned and operated by a municipality and which transmits only noncommercial programs for education purposes."²⁵⁵ We seek comment on whether LTTS or other Part 101 stations that are or may be used to transmit television material for noncommercial educational broadcast stations fall within this auction exemption. We previously have concluded, however, that the exemption does not include stations in the Instructional Television Fixed Service (ITFS), because the exemption does not include nonbroadcast services.²⁵⁶ ITFS is a point-to-point or point-to-multipoint microwave service whose channels are allocated to educational organizations and are used primarily for the transmission of instructional, cultural, and other types of educational material not intended to be received by the general public.²⁵⁷ Thus, any commenter advocating an exemption for any Part 101 services should distinguish those services from ITFS.

D. Forbearance and Regulatory Flexibility

83. Section 10 of the Act provides the Commission with authority to forbear from applying sections of the Act and its regulations to telecommunications carriers and services if the Commission determines that enforcement of the regulation or provision is not necessary to ensure just and reasonable charges, practices, classifications, and regulations; enforcement is not necessary for the protection of consumers; and forbearance is consistent with the public interest.²⁵⁸ In the case of commercial mobile radio service (CMRS) providers, the Commission concluded that it was appropriate to forbear from Sections 203, 204, 205, 211, 212, and most applications of Section 214.²⁵⁹ The Commission, however, declined to

²⁵³ 47 U.S.C. § 309(j)(2)(C).

²⁵⁴ 47 C.F.R. § 397(6)(A).

²⁵⁵ 47 C.F.R. § 397(6)(B).

²⁵⁶ Implementation of Section 309(j) of the Communications Act -- Competitive Bidding for Commercial Broadcast and Instructional Television Fixed Service Licenses, *First Report and Order*, MM Docket No. 97-234, 13 FCC Rcd 15920, 16001 (1998).

²⁵⁷ *Id.* at 16000.

²⁵⁸ See 47 U.S.C. § 160(a)(1-3). Section 10 provides the Commission with authority to forbear from application of virtually any regulation or any provision of the Act to a telecommunications carrier or telecommunications service, or a class of carriers or services. However, the Commission may not forbear from applying the requirements of Sections 251(c) or 271 until it determines that those requirements have been fully implemented. See 47 U.S.C. § 160(d).

²⁵⁹ See Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, *Second Report and Order*, 9 FCC Rcd 1411, 1463-93, ¶¶ 124-219, 272. Although the Commission recently concluded that, pursuant to Section 10(a)(3), forbearance from the international Section 214 application process would not be consistent with the public interest, we substantially streamlined the international 214 process, providing significant regulatory relief. See 1998 Biennial Regulatory Review -- Review of International Common Carrier Regulations, *Report and Order*, 14 FCC Rcd 4909, 4917 ¶ 18 (1999). See also Personal Communications Industry Association's Broadband Personal Communications Services Alliance's Petition for Forbearance For

forbear from enforcing other provisions, including Sections 201 and 202.²⁶⁰ The Commission has also exercised its forbearance authority in permitting competitive access providers (CAPs) and competitive local exchange carriers (CLECs) to file permissive tariffs.²⁶¹ We seek comment regarding whether it is appropriate to forbear from enforcing any provisions of the Act or the Commission's rules with respect to Part 101 services.²⁶²

84. We also seek comment on whether the type of regulatory flexibility the Commission has permitted in other services is appropriate for Part 101 licensing. For example, 39 GHz band and MAS²⁶³ licensees are permitted to conduct point-to-point, point-to-multipoint, or (upon the establishment of interference criteria) mobile operations.²⁶⁴ In both instances, the Commission concluded that lifting the existing operational restrictions would enable providers to broaden the array of services they offer in order to respond to changing marketplace demands.²⁶⁵ We seek comment on whether some or all other Part 101 licensees also should be permitted to provide such services. Commenters also should address whether such operational flexibility is permitted by Section 303(y) of the Act. Section 303(y) of the Act requires the Commission to make affirmative findings before permitting flexible use as part of the allocations process. Specifically, we are required to determine that such flexibility: (1) is consistent with international agreements; (2) would be in the public interest; (3) would not deter investment in communications services

Broadband Personal Communications Services, Forbearance from Applying Provisions of the Communications Act to Wireless Telecommunications Carriers, *Memorandum Opinion and Order and Notice of Proposed Rulemaking*, 13 FCC Rcd 16857, 16914 ¶ 119 (released July 2, 1998) (*Forbearance Order*). See also Implementation of Section 402(b)(2)(A) of the Telecommunications Act of 1996; Petition for Forbearance of the Independent Telephone & Telecommunications Alliance, *Report and Order in CC Docket No. 97-11, Second Memorandum Opinion and Order in AAD, File No. 98-43*, 14 FCC Rcd 11364 (1999) (eliminating entry certification filing requirements under Section 214 and significantly streamlining exit certification requirements, granting the substance of the Section 214 regulatory relief requested by the members of the Independent Telephone and Telecommunications Alliance in their petition for forbearance, and extending that relief to all other domestic carriers).

²⁶⁰See *Forbearance Order, supra*, 13 FCC Rcd at 16864-16872 ¶¶ 14-31. The Commission also declined to forbear from applying Section 20.12(b) of the Commission's rules, which requires broadband personal communications service, cellular, and covered specialized mobile radio carriers, to permit unrestricted resale of their services until five years after the last group of initial licensees for broadband PCS is awarded. *Id.* at 44.

²⁶¹See Hyperion Telecommunications, Inc. Petition Requesting Forbearance; Time Warner Communications Petition for Forbearance; Complete Detariffing for Competitive Access Providers and Competitive Local Exchange Carriers, *Memorandum Opinion and Order and Notice of Proposed Rulemaking*, 12 FCC Rcd 8596, 8608-10 ¶¶ 23-27 (1997).

²⁶²We note that we have sought comment on these same issues with respect to the 24 GHz band specifically. See Amendment to Parts 1, 2 and 101 of the Commission's Rules To License Fixed Services at 24 GHz, *Notice of Proposed Rulemaking*, WT Docket No. 99-327, FCC 99-333, ¶ 35, (rel. Nov. 10, 1999). In this proceeding, we seek to broaden the scope of our inquiry to Part 101 services generally.

²⁶³See *MAS Report and Order*, FCC No. 99-415 (rel. Jan. 19, 2000).

²⁶⁴39 GHz *Report and Order*, 12 FCC Rcd at 18613-15.

²⁶⁵39 GHz *Report and Order*, 12 FCC Rcd at 18614; *MAS Report and Order*, FCC No. 99-415 (rel. Jan. 19, 2000). at ¶ 101-105.

or systems, or technology development; and (4) would not result in harmful interference among users.²⁶⁶

V. PROCEDURAL MATTERS

A. Regulatory Flexibility Act

85. Appendix B contains a Final Regulatory Flexibility Analysis with respect to the *Memorandum Opinion and Order* and an Initial Regulatory Flexibility Analysis (IRFA) with respect to the *Notice of Proposed Rule Making*. As required by Section 603 of the Regulatory Flexibility Act of 1980, Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. §§ 601, *et seq.*, the Commission has prepared an IRFA of the expected impact on small entities of the proposals set forth in the *Notice of Proposed Rule Making*. We request written public comment on the IRFA. In order to fulfill the mandate of the Contract with America Advancement Act of 1996 regarding the Final Regulatory Flexibility Analysis, we ask a number of questions in our Initial Regulatory Flexibility Analysis regarding the prevalence of small businesses in the affected industries. Comments must be filed in accordance with the same filing deadlines as comments filed in this rule making proceeding, but they must have a separate and distinct heading designating them as responses to the IRFA. The Secretary shall send a copy of this *Memorandum Opinion and Order and Notice of Proposed Rule Making*, including the Final and Initial Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with Section 603(a) of the Regulatory Flexibility Act.

B. Ex Parte Rules -- Permit-But-Disclose Proceeding

86. This is a permit-but-disclose notice and comment rule making proceeding. Ex parte presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in Commission rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, 1.1206.

C. Paperwork Reduction Analysis

87. This *Notice of Proposed Rule Making* contains either a proposed or modified information collection. As part of our continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this Notice, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and agency comments are due at the same time as other comments on this *Notice of Proposed Rule Making*; OMB comments are due 60 days from the date of publication of this *Notice of Proposed Rule Making* in the Federal Register. Comments should address:

- Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility.
- The accuracy of the Commission's burden estimates.
- Ways to enhance the quality, utility, and clarity of the information collected.
- Ways to minimize the burden of the collection of information on the respondents, including the

²⁶⁶ 47 U.S.C. § 303(y).

use of automated collection techniques or other forms of information technology.

In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judy Boley, Federal Communications Commission, 445 Twelfth St., S.W., Room 1-C804, Washington, D.C. 20554, or via the Internet to jboley@fcc.gov, and to Virginia Huth, OMB Desk Officer, 10236 New Executive Office Building, 725 Seventeenth Street, N. W., Washington, D.C. 20503, or via the Internet to vhuth@omb.eop.gov.

D. Comment Dates

88. Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, interested parties may file comments on or before [30 days after publication in the Federal Register], and reply comments on or before [45 days after publication in the Federal Register].²⁶⁷ Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.²⁶⁸ Comments filed through the ECFS can be sent as an electronic file via the Internet to [<http://www.fcc.gov/e-file/ecfs.html>](http://www.fcc.gov/e-file/ecfs.html). Generally, only one copy of an electronic submission must be filed. If multiple docket or rulemaking numbers appear in the caption of this proceeding, however, commenters must transmit an electronic copy of the comments to each docket or rulemaking number referenced in the caption. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message: "get form <your e-mail address.>" A sample form and directions will be sent in reply.

89. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rulemaking number. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 Twelfth St., S.W., TW-A325, Washington, D.C. 20554. Parties filing on paper are also encouraged to submit a copy of all pleadings on a 3.5-inch diskette in an IBM compatible form using Microsoft Word or compatible software.

90. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center, 445 Twelfth St., S.W., Room CY-A257, Washington, D.C. 20554. Copies of comments and reply comments are available through the Commission's duplicating contractor, International Transcription Services, Inc., 1231 20th Street, N.W., Washington, D.C. 20036, (202) 857-3800, FAX (202) 857-3805.

E. Ordering Clauses

91. Accordingly, IT IS ORDERED that, pursuant to the authority contained in Sections 4(i) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i) and 303(r), and Section 1.429 of the Commission's Rules, 47 C.F.R. § 1.429, the Petitions for Reconsideration, Petitions for Clarification, and

²⁶⁷47 C.F.R. §§ 1.415, 1.419.

²⁶⁸See Electronic Filing of Documents in Rulemaking Proceedings, *Report and Order*, GC Docket No. 97-113, 13 FCC Rcd 11322 (1998).

other pleadings submitted in response to the *Part 101 Order* ARE GRANTED IN PART to the extent indicated herein AND ARE DENIED IN PART in all other respects.

92. IT IS FURTHER ORDERED that Parts 22, 24, 25, 74, 78, 90, and 101 of the Commission's Rules ARE HEREBY AMENDED as specified in Appendix C.

93. IT IS FURTHER ORDERED that the modifications to Part 101 of the Commission's Rules and Regulations as shown in Appendix C will become effective 60 days after publication in the Federal Register.

94. IT IS FURTHER ORDERED that, pursuant to the authority contained in Sections 1, 4(i), 7, 301, 303, 308, and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 161, 301, 303, 308, 332(a), and 332(c), this *Notice of Proposed Rule Making* in WT Docket No. 00-19 IS ADOPTED.

95. IT IS FURTHER ORDERED that the Commission's Office of Public Affairs, Reference Operations Division, SHALL SEND a copy of this *Memorandum Opinion and Order and Notice of Proposed Rule Making*, including the Final and Initial Regulatory Flexibility Analyses, to the Chief Counsel for Advocacy of the Small Business Administration.

96. IT IS FURTHER ORDERED that the proceedings in WT Docket No. 94-148, CC Docket No. 93-2, and RM-7861 ARE HEREBY TERMINATED.

F. Contacts for Information

97. For further information on this matter contact Michael J. Pollak or Edgar Class, Policy and Rules Branch, Public Safety and Private Wireless Division, Wireless Telecommunications Bureau, at (202) 418-0680. TTY (202) 418-7233.

98. Alternative formats (computer diskette, large print, audio cassette, and Braille) are available to persons with disabilities by contacting Martha Contee at (202) 418-0260, TTY (202) 418-2555, or via e-mail to mcontee@fcc.gov. This *Memorandum Opinion and Order and Notice of Proposed Rule Making* can be downloaded at <http://www.fcc.gov/Wireless/Orders/2000/fcc0033.txt>.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDICES

APPENDIX A - List of Commenters to the *TIA Petition*

Comments

AirTouch Communications, Inc.
Alcatel USA, Inc. (Alcatel)
Andrew Corporation
Digital Microwave Corporation
Harris Corporation
Society of Broadcast Engineers, Inc.
Teledesic LLC

Reply Comments

Alcatel
Telecommunications Industry Association

APPENDIX B - Regulatory Flexibility Analysis

I. Final Regulatory Flexibility Analysis (for *Memorandum Opinion and Order*)

As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Part 101 Notice* and the *Point-to-Point Notice* in WT Docket No. 94-148 and CC Docket No. 93-2, respectively.¹ The Commission sought written public comments on the proposals in these proceedings, including on the IRFAs. The Commission's Final Regulatory Flexibility Analysis (FRFA) for the *Memorandum Opinion and Order (MO&O)* conforms to the RFA.

Need for and purpose of this action. This *MO&O* addresses petitions for reconsideration and clarification received in response to the *Part 101 Order* and further simplifies and corrects the rules in the Commission's newly consolidated Part 101 of its Rules, which governs the common carrier and private operational fixed microwave services. The changes made by the *MO&O* are minor in nature and are intended to forestall confusion, eliminate redundancy, remove obsolete language, and generally promote the public interest. We find that the potential benefits to fixed microwave applicants and licensees exceed any negative effects that could result from the revised rules promulgated herein. Thus, we conclude that the public interest is served by modifying these rules, thereby increasing the speed and ease of filing and processing applications for the fixed microwave services.

Summary of significant issues raised by public comments in response to the IRFA. No comments were submitted in direct response to the IRFA. Several petitioners suggested modifications to the rules adopted in the *Part 101 Order*. As a result of these petitions, the Commission has made appropriate modifications to the Rules. The specific suggestions and modifications are discussed in the paragraphs above. We have reviewed the petitions and general comments to determine any impact they may have on small businesses.

Description and estimate of the number of small entities to which the rules apply. The rules will affect all common carrier and private operational fixed microwave licensees who are authorized under Part 101 of the Commission's Rules. The Commission has not developed a definition of small entities applicable to these licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules for the radiotelephone industry, which provides that a small entity is a radiotelephone company employing fewer than 1,500 persons.² The 1992 Census of Transportation, Communications, and Utilities, conducted by the Bureau of the Census, which is the most recent information available, shows that only 12 radiotelephone firms out of a total of 1,178 such firms which operated during 1992 had 1,000 or more employees.³ It is our understanding that these rule change

¹ See *Part 101 Notice*, 10 FCC Rcd at 2516; *Point-to-Point Notice*, 8 FCC Rcd at 1115.

² 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) Code 4812.

³ U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Transportation, Communica-

will affect less than 1000 entities, but that the effect will be to lessen time and input and thereby any costs associated with processing the applications.

Description of projected reporting, recordkeeping, and other compliance requirements.

There are no new reporting or recordkeeping requirements proposed or adopted in this *MO&O*. We have amended the fixed microwave rules to make them less burdensome, eliminated some requirements for filing applications, consolidated application forms, and clarified some of the language of the existing rules. Licensees, when making changes to their radio systems or constructing new facilities, were previously required to file an application or notify the Commission by letter of the change or the completion of construction. We have eliminated this requirement in many cases.

Significant alternatives considered. The petitions for reconsideration and clarification offered various alternatives for modification of the rules adopted in the *Part 101 Notice*; an additional alternative was to maintain the *status quo*. In general, the petitions for reconsideration and clarification supported the rule changes already effected, but sought changes asserted to make the adopted rules more clear and accurate. Many of the suggested modifications are incorporated in the final rules. The rules, as amended herein, impose no additional regulatory burdens. The Commission will continue to examine alternatives in the future with the objective of eliminating unnecessary regulations and minimizing economic impact on small business entities.

Commission's outreach efforts to learn of and respond to the views of small entities pursuant to 5 U.S.C. § 609. In this proceeding, the Commission has taken several steps to learn and respond to the views of small entities. Throughout the course of this proceeding, representatives of the Public Safety and Private Wireless Division (PS&PWD) of the Wireless Telecommunications Bureau have had numerous discussions with the representatives of small entities. The staff of the Licensing and Data Analysis Branch of the PS&PWD in Gettysburg, Pennsylvania routinely respond to questions posed by the representatives of small entities and, when appropriate, refer issues arising from those questions to PS&PWD staff in Washington, D.C. for determination of whether a rule change or clarification will benefit the small entities posing the questions. Additional outreach has been achieved by the staff of the PS&PWD meeting with the frequency coordinators for the microwave services.⁴

Report to Congress. The Commission shall send a copy of this Final Regulatory Flexibility Analysis, along with the *Memorandum Opinion and Order*, in a report to Congress pursuant to Section 251 of the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801(a)(1)(A). A copy of this FRFA will also be published in the Federal Register.

tions, and Utilities, UC92-S-1, Subject Series, Establishment and Firm Size, Table 5, Employment Size of Firms: 1992, SIC Code 4812 (issued May 1995).

⁴ Many of the frequency coordinators are employees of trade associations, which have many small entities as members. The last major frequency coordination conference held in Washington, D.C. was in May 1999; PS&PWD staff were in attendance.

II. Initial Regulatory Flexibility Analysis (for *Notice of Proposed Rule Making*)

As required by Section 603 of the Regulatory Flexibility Act, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the policies and rules proposed in this *Notice of Proposed Rule Making (Notice)*. Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Notice*.

Need for and objectives of the proposed rules. This rulemaking is being initiated to apply certain licensing and service rules to new and existing fixed microwave licensees under Part 101 of the Commission's Rules for the purpose of streamlining application preparation and processing time for the Commission and the industry. Our objectives are (1) to clarify the existing rules so they are easier to understand; (2) to facilitate the awarding of licenses to entities in a quicker manner; and (3) to eliminate unnecessary regulation.

Legal basis. The proposed action is authorized under the Administrative Procedure Act, 5 U.S.C. § 553; and sections 1, 4(i), 7, 301, 303, 308, and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 157, 301, 303, 308, and 309(j).

Description and estimate of the number of small entities to which the proposed rules will apply. The proposed rules would affect all common carrier and private operational fixed microwave licensees who are authorized under Part 101 of the Commission's Rules. The Commission has not developed a definition of small entities applicable to these licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules for the radiotelephone industry, which provides that a small entity is a radiotelephone company employing fewer than 1,500 persons.⁵ The 1992 Census of Transportation, Communications, and Utilities, conducted by the Bureau of the Census, which is the most recent information available, shows that only 12 radiotelephone firms out of a total of 1,178 such firms which operated during 1992 had 1,000 or more employees.⁶ It is our understanding that these rule change will affect less than 1000 entities, but that the effect will be to lessen time and input and thereby any costs associated with processing the applications. We seek comment on this analysis. In providing such comment, commenters are requested to provide information regarding how many total and small business entities would be affected.

Description of projected reporting, recordkeeping, and other compliance requirements. Under the proposals contained in the *Notice*, we are not changing or are reducing the amount of reporting,

⁵ 13 C.F.R. § 121.201, Standard Industrial Classification (SIC) Code 4812.

⁶ U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Transportation, Communications, and Utilities, UC92-S-1, Subject Series, Establishment and Firm Size, Table 5, Employment Size of Firms: 1992, SIC Code 4812 (issued May 1995).

recordkeeping, and other compliance requirements. Applicants for licenses will be required to submit applications on FCC Form 601 to the Wireless Telecommunications Bureau as they do now. We request comment on how these requirements can be modified to reduce the burden on small entities and still meet the objectives of the proceeding.

Significant alternatives minimizing the impact on small entities consistent with the stated objectives. We have reduced burdens wherever possible. The regulatory burdens we have retained, such as filing applications on appropriate forms, are necessary in order to ensure that the public receives the benefits of new and existing services in a prompt and efficient manner. We will continue to examine alternatives in the future with the objectives of eliminating unnecessary regulations and minimizing and significant economic impact on small entities. We seek comment on significant alternatives commenters believe we should adopt.

Federal rules that overlap, duplicate, or conflict with these proposed rules. None.

APPENDIX C - Final Rules

Parts 24, 25, 74, 78, 90, and 101 of Chapter I of Title 47 of the Code of Federal Regulations are amended as follows:

I. PART 24 - PERSONAL COMMUNICATIONS SERVICES

1. The authority citation for Part 24 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 309 and 332.

2. Section 24.2 is amended by revising paragraphs (h) and (j) to read as follows:

§ 24.2 Other applicable rule parts.

* * * * *

(h) *Part 21*. This part contains rules concerning point-to-multipoint microwave multipoint distribution systems.

* * * * *

(j) *Part 101*. This part contains rules concerning common carrier and private services relating to fixed point-to-point and point-to-multipoint microwave systems.

II. PART 25 - SATELLITE COMMUNICATIONS

3. The authority citation for Part 25 continues to read as follows:

AUTHORITY: 47 U.S.C. 701-704. Interprets or applies sec. 303, 47 U.S.C. 303. 47 U.S.C. 154, 301, 302, 303, 307, 309 and 332, unless otherwise noted.

4. Section 25.203 is amended by revising paragraph (c)(3) to read as follows:

§ 25.203 Choice of sites and frequencies.

* * * * *

(c) * * * * *

(3) The coordination procedure specified in § 101.103(d) of this chapter shall be applicable except that the information to be provided shall be that set forth in paragraph (c)(2) of this section, and that the 30-day period allowed for response to a request for coordination may be increased to a maximum of 45

days by mutual consent of the parties.

* * * * *

PART 74 - EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST

5.

AUTHORITY: Secs. 4, 303, 48 Stat. 1066, as amended, 1082, as amended; 47 U.S.C. 154, 303, 554.

. Section 74.502 is amended by revising paragraph (a), the introductory text of paragraph (c), and the last sentence of paragraph (c)(1) to read as follows:

§ 74.502 Frequency assignment.

(a) Except as provided in US 302, broadcast auxiliary stations licensed as of November 21, 1984, to operate in the band 942-944 MHz¹ may continue to operate on a co-equal primary basis to other stations and services operating in the band in accordance with the Table of Frequency Allocations. These stations will be protected from possible interference caused by new users of the band by the technical standards specified in §101.105(c)(2).

¹ NOTE: In addition to this band, stations in Puerto Rico may continue to be authorized on 942.5, 943.0, 943.5, 944.0 MHz in the band 942-944 MHz on a primary basis to stations and services operating in accordance with the Table of Frequency Allocations.

* * * * *

(c) The frequency bands 18,760-18,820 MHz and 19,100-19,160 MHz are available for assignment to aural broadcast STL and intercity relay stations and are shared on a co-primary basis with other fixed services under Parts 78 and 101 of the Commission's rules.

(1) * * * Applicants may use either a two-way link or one frequency of a frequency pair for a one-way link and shall coordinate proposed operations pursuant to the procedures required in §101.103(d).

* * * * *

7. Section 74.602 is amended by revising paragraphs (e) and (g) introductory text to read as follows:

§ 74.602 Frequency assignment.

* * * * *

be assigned frequencies available to television broadcast station licensees and broadcast network entities for the purpose of providing service to television broadcast stations and broadcast network entities,

* * * * *

(g) The following frequencies are available for assignment to television STL, television relay frequencies. These frequencies are shared on a co-primary basis with other stations in the fixed service (see Parts 78 and 101). Applicants may use either a two-way link or one or both frequencies of a frequency pair for a one-way link and shall coordinate proposed operations pursuant to procedures required in §101.103(d).

* * * * *

8. Section 74.638 is amended by revising the first sentence of paragraph (a) introductory text, and paragraph (b) to read as follows:

§ 74.638 Frequency coordination.

(a) Channels in Band D are shared with certain Private Operational Fixed Stations authorized under part 101, §101.147(p), after September 9, 1983. * * *

* * * * *

(b) Coordination of assignments in the 6425-6525 MHz and 17.7-19.7 GHz bands will be in accordance with the procedure established in §101.103(d), *except* that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree.

IV. PART 78 - CABLE TELEVISION RELAY SERVICE

9. The authority citation for Part 78 continues to read as follows:

AUTHORITY: Secs. 2, 3, 4, 301, 303, 307, 308, 309, 48 Stat., as amended, 1064, 1065, 1066, 1081, 1082, 1083, 1084, 1085; 47 U.S.C. 152, 153, 154, 301, 303, 307, 308, 309.

10. Section 78.3 is revised to read as follows:

§ 78.3 Other pertinent rules.

Other pertinent provisions of the Commission's rules and regulation relating to the cable television

Part 0-Commission Organization.

Part 1-Practice and Procedure.

Part 17-Construction, Marking, and Lighting of Antenna Structures.

Part 21-Domestic Public Fixed Radio Services.

Part 76-Cable Television Service

Part 101-Fixed Microwave Services.

. Section 78.11 is amended by revising paragraph (g) to read as follows:

§ 78.11 Permissible service.

* * * * *

(g) The provisions of paragraph (d) of this section and §78.13 of this part shall not apply to a licensee who has been licensed in the CARS service pursuant to §101.705 of this chapter, except that paragraph (d) of this section shall apply with respect to facilities added or cable television and other eligible systems first served after February 1, 1966.

* * * * *

12. Section 78.18 is amended by revising the introductory texts of paragraphs (a)(4), (5), (6), (7), and (8) to read as follows:

§ 78.18 Frequency assignments.

(a) * * *

* * * * *

(4) The Cable Television Relay Service is also assigned the following frequencies in the 17,700 to 19,700 MHz band. These frequencies are co-equally shared with stations in the fixed service under Parts 74 and 101 of the Commission's Rules. Applicants may use either two-way link or one or both frequencies of a frequency pair for a one-way link and shall coordinate proposed operations pursuant to procedures required in §101.103(d). These bands may be used for analog or digital modulation. * * *

(5) *31.0 to 31.3 GHz*. These frequencies are shared on a co-equal basis with other stations in the fixed and mobile services (see Parts 74, 95 and 101). No interference protection is afforded to fixed or

mobile stations operating this band. * * *

6425 to 6525 MHz-Mobile only. Paired and unpaired operations permitted. Use of this not permitted. This band is co-equally shared with mobile stations licensed pursuant to Parts 74 and 101 of the Commission's Rules. The following channel plans apply. * * *

1990-2110 MHz-Mobile only. Use of this spectrum for direct delivery of video programs to stations licensed pursuant to Parts 74 and 101 of the Commission's Rules. (Common carriers may use this band pursuant to provisions of §101.803(b)). The following channeling plan applies subject to the

(8) *6875-7125 MHz-Mobile only.* the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with stations licensed pursuant to Parts 74 and 101 of the Commission's Rules. (Common carriers may use this provisions of §74.604. * * *

* * * * *

- . Section 78.36 is amended by revising paragraph (b) to read as follows:

* * * * *

(b) Coordination of fixed and mobile assignments will be in accordance with the procedure established in §101.103(d), that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a

V. PART 90 - PRIVATE LAND MOBILE RADIO SERVICES

- . The authority citation for Part 90 continues to read as follows:

and 332, as amended; 47 U.S.C. 154, 251-2, 303,

309 and 332, unless otherwise noted.

- . Section 90.20 is amended by revising paragraph (d)(70) to read as follows:

(d) * * * * *

(70)

101 of this chapter.

* * * * *

PART 101 - FIXED MICROWAVE SERVICES

16 The authority citation for Part 101 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303.

. Section 101.3 is amended by revising the definition of "Private line service" to read as follows:

* * * * *

Private operational fixed point-to-point microwave service. A private radio service rendered by fixed and temporary fixed stations on microwave frequencies for the exclusive use or availability for use of may be provided between points within the United States, points within United States' possessions, or between the United States and points in Canada or Mexico.

18.

§101.4 Transition plan.

(a) All systems subject to Parts 21 and 94 of this chapter in effect as of July 31, 1996, which are under Part 21 or Part 94 of this chapter as contained in the C.F.R. edition revised as of October 1, 1995 and amended in the FEDERAL REGISTER through July 31, 1996, as applicable, indefinitely.

21. Section 101.17 is amended by restoring paragraphs (a) – (b) to read as follows:

renewal. A licensee's substantial service showing should include, but not be limited to, the following information for each channel for which they hold a license, in each EA or portion of an EA covered by their

Commission to determine whether the licensee is providing service which rises to the level of "substantial."

(1) A description of the 38.6-40.0 GHz band licensee's current service in terms of geographic

(2) A description of the 38.6-40.0 GHz band licensee's current service in terms of population

(3) A description of the 38.6-40.0 GHz band licensee's investments in its system(s) (type of

(b) Any 38.6-40.0 GHz band licensees adjudged not to be providing substantial service will not

* * * * *

.

§ 101.21 Technical content of applications.

(f) All applicants for regular authorization must, before filing an application, major amendments existing users in the area and other applicants with previously filed applications in accordance with the applicant for a new station, for new points of communication, for the initial frequency assignment in a emission or radiation characteristics of an existing station in a manner that may increase the likelihood of coordination distance contours of an existing Earth station or one for which an application has been For each potential interference path, the applicant must perform the computations required to determine permissible interference power level in accordance with the technical standards and requirements of submission of additional showings, complete with pertinent data and calculations in accordance with part (Technical characteristics of the Earth stations on file and coordination contour maps for those Earth Washington, D.C.)

20. Section 101.31 is amended by revising the title of paragraph (a) as follows:

§ 101.31 Temporary and conditional authorizations.

(a) *Operation at temporary locations.*

* * * * *

21. Section 101.55 is amended by revising paragraph (a) introductory text, paragraph (d) introductory text, and the first sentence of paragraph (e)(3) to read as follows:

§ 101.55 Considerations involving transfer or assignment applications.

(a) Except as provided for in paragraph (d) of this section, licenses may not be assigned or transferred prior to the completion of construction of the facility. However, consent to the assignment or transfer of control of such a license may be given prior to the completion of construction where:

* * * * *

(d) If a proposed transfer of radio facilities is incidental to a sale or other facilities or merger of interests, the showing specified under paragraph (c) of this section shall be submitted and include an additional exhibit that:

* * * * *

(e) * * * * *

(3) The median date of the applicable commencement dates (determined pursuant to paragraphs (e)(1) and (2) of this section) if the transaction involves a system (such as a Private Operational Fixed Point-to-Point Microwave system) of two or more stations. * * * * *

22. Section 101.63 is amended by revising paragraph (a) to read as follows:

§ 101.63 Period of construction; certification of completion of construction.

(a) Except for stations licensed in the Local Multipoint Distribution Service (LMDS) and 38.6-40.0 GHz band, each station licensed under this part must be in operation within 18 months from the initial date of grant. Modification of an operational station other than one licensed in LMDS and the 38.6-40.0 GHz band must be completed within 18 months of the date of grant of the applicable modification request.

* * * * *

. Section 101.81 is amended by revising the introductory paragraph to read as follows:

the 1850-1990 MHz, 2110-2150 MHz, and 2160-2200 MHz bands.

1990 MHz, 2110-2150 MHz, and 2160-2200 MHz bands will be authorized on a secondary basis to ET systems. All other modifications will render the modified FMS license secondary to ET operations, unless

modification would not add to the relocation costs of ET licensees. Incumbent FMS licensees will maintain primary status for the following technical changes:

24.

of the table and the list of acronyms after the table to read as follows:

* * * * *

Frequency availability.

FREQUENCY	RADIO SERVICE				
	COMMON (Part 101)	PRIVATE (Part 101)	BROADCAST (Part 74)	OTHER 22, 24, 25, 74 78 & 100)	
928 – 929	MAS			PRS	
932.0 – 932.5		MAS		PRS	
	CC	OFS			
941.0 – 941.5	MAS			PRS	
941.5 – 944.0		OFS	Aural BAS		
952 – 958		OFS/MAS			
958 – 960	MAS				
* * *					

FREQUENCY BAND (MHz)	RADIO SERVICE				
	COMMON CARRIER (Part 101)	PRIVATE RADIO (Part 101)	BROADCAST AUXILIARY (Part 74)	OTHER (Parts 15, 21, 22, 24, 25, 74 78 & 100)	
27,500-28,350	LMDS				
29,100-29,250	LMDS				
31,000-31,300	CC LMDS	OFS LMDS			
* * *					

BAS: Broadcast Auxiliary Service -- (Part 74)

Cable Television Relay Service --(Part 78)

CC: o-Point Microwave Service -- (Part 101, Subparts C & I)

DBS:

DEMS: Digital Electronic Message Service -- (Part 101, Subpart G)

Industrial, Scientific & Medical -- (Part 18)

ITFS: ixed Service -- (Part 74)

LTTS:

MAS: Multiple Address System -- (Part 101)

Multipoint Distribution Service -- (Part 21)

OFS: -- (Part 101, Subparts C & H)

PCS:

PET: Emerging Technologies (per ET Dkt. No. 92-9, not yet assigned)

Paging and Radiotelephone Service -- (Part 22, Subpart E)

SAT:)

Notes:

(1)-Applications for frequencies in the 932.5-935/941.5-944 MHz bands may be filed initially during a one-week period to be announced by public notice. After these applications have been

From this filing date forward, applications will be processed on a daily first-come, first-served basis.

Federal Communications Commission

* * * * *

25 Section 101.103 is amended by revising paragraphs (d)(2)(i) and (ii) to read as follows:

§101.103 Frequency coordination procedures.

(d) * * * * *

* * * * *

(i) response. Both or either
may be oral or in written form. To be acceptable for filing, all applications and major technical
licensees, permittees and applicants with which coordination was accomplished must be specified. If such
notice and/or response is oral, the party providing such notice or response must supply written

(ii) Notification must include re
should include, as applicable, the following:

Applicant's name and address.

Transmitting station coordinates.

Frequencies and polarizations to be added, changed or

Transmitting equipment type, its stability, actual output power,
emission designator, and type of modulation (loading).

pattern provided or certified by the manufacturer.

ground elevation above mean sea level.

Receiving station name.

Receiving antenna type(s), model, gain, and, if required, a radiation
pattern prov

Receiving antenna center line height(s) above ground level and ground
elevation above mean sea level.

Estimated transmitter transmission line loss expressed in dB.

Estimated receiver

For a system utilizing ATPC, maximum transmit power, coordinated transmit power,
and nominal transmit power.

NOTE: The position location of antenna sites shall be determined to an accuracy of no less than ± 1 second in the horizontal dimensions (latitude and longitude) and ± 1 meter in the vertical dimension (ground elevation) with respect to the National Spatial Reference System.

* * * * *

26. Section 101.105 is amended by revising the paragraph (c)(2) introductory text and the first sentences of paragraph (c)(3) and (c)(7) to read as follows:

§101.105 Interference protection criteria.

* * * * *

(c) *Applying the criteria.* (1) * * * * *

(2) If TSB 10 guidelines cannot be used, the following interference protection criteria may be used by calculating the ratio in dB between the desired (carrier signal) and the undesired (interfering) signal (C/I ratio) appearing at the input to the receiver under investigation (victim receiver). Except as provided in §101.147 of this Part, where the applicant's proposed facilities are of a type not included in paragraphs (a) and (b) of this section or where the development of the carrier-to-interference (C/I) ratio is not covered by generally acceptable procedures, or where the applicant does not wish to develop the carrier-to-interference ratio, the applicant must, in the absence of criteria or a developed C/I ratio, employ the following C/I protection ratios:

* * * * *

(3) Applicants for frequencies listed in § 101.147(b)(1)-(4) of this part must make the following showings that protection criteria have been met over the entire service area of existing systems. *

* * * * *

(7) Each application for new or modified nodal station on channels numbered 21, 22, 23, and 24 in the 10.6 GHz band must include an analysis of the potential for harmful interference to all other licensed and previously applied for co-channel and adjacent channel stations located within 80 kilometers of the location of the proposed station. * * *

* * * * *

30. Section 101.109 is amended by revising the table in paragraph (c) to read as follows:

§101.109 Bandwidth.

(c) * * *

(MHz)	Maximum
	Bandwidth
928 to 929	/1/ /5/ /6/
	12.5 kHz /1/ /5/ /6/
	200 kHz /1/
	200 kHz /1/ /5/ /6/
	* * *

/1/ The maximum bandwidth that will be authorized for each particular frequency in this band is detailed in

* * * * *

/4/ For exceptions, see §101.147(s).

/6/ For frequencies listed in §101.147(b)(1-4), consideration will be given on a case-by-case basis to authorizing bandwidths up to 50 kHz.

27.

14,400 MHz, modify the entry for 21,200-23,600 MHz, to change footnote 5, and add footnote 10 to read as follows:

(a) * * *

Frequency Band (MHz)	EIRP ^{1 2}	
	Fixed	Mobile (dBW)

Frequency Band (MHz)	Maximum allowable EIRP ^{1 2}	
	Fixed	Mobile (dBW)
	* * *	* * *
	+45
	* * *	* * *
	⁵ +55	
10	+55	
* * *	* * *	
27,500 to 28,350 ⁹	
* * *		* * *
31,000 to 31,075	30 dBW/MHz	30 dBW/MHz
8, 9	30 dBW/MHz	
31,225 to 31,300 ^{8,9}		30 dBW/MHz
* * *		* * *

* * * * *

The output power of a DEMS System nodal transmitter shall not exceed 0.5 watts per 250 kHz. The output power of a DEMS System user transmitter shall not exceed 0.04 watts per 250 kHz. The

the associated antenna input port. The operating power shall not exceed the authorized power by more than 10 percent of the authorized power in watts at any time. Frequencies from 10,600-10,680 MHz are subject

* * *

10

* * * * *

28 Section 101.115 is amended by revising footnote 11 to the table in paragraph (c) removing the "Note to footnote 11" to read as follows:

§101.115 Directional antennas.

* * * * *

(c) * * * * *

11 Except as provided in Section 101.147(s).

12 * * * * *

* * * * *

29. Section 101.135 is amended by revising the first sentence of paragraph (a) to read as follows:**§ 101.135 Shared use of radio stations and the offering of private carrier service.**

* * * * *

(a) Persons or governmental entities licensed to operate radio systems on any of the private radio frequencies set out in § 101.101 may share such systems with, or provide private carrier service to, any eligible entity for licensing under this part, regardless of individual eligibility restrictions, provided that the communications being carried are permissible under § 101.603. * * *

* * * * *

30. Section 101.143 is amended by revising paragraph (b) to read as follows:**§101.143 Minimum path length requirements.**

* * * * *

(b) For paths shorter than those specified in the Table above, the EIRP shall not exceed the value derived from the following equation:

$$\text{EIRP} = \text{MAXEIRP} - 40 \cdot \log(A/B) \text{ dBW}$$

Where:

EIRP = The new maximum EIRP (equivalent isotropically radiated power) in dBW.

MAXEIRP = Maximum EIRP as set forth in the Table in Section 101.113(a).

A = Minimum path length from the Table above for the frequency band in kilometers.

B = The actual path length in kilometers.

NOTE TO PARAGRAPH (b): For transmitters using Automatic Transmitter Power Control, EIRP

nominal transmit power.

* * * * *

- . Section 101.145 is amended by revising paragraph (a) to read as follows:

* * * * *

(a) Stations authorized prior to July 1, 1976 in the bands in paragraphs (b) and (c) of this section are permitted to operate indefinitely, provided that the operation of such stations does not result in harmful interference to reception in these bands on board

* * * * *

32 Section 101.147 is amended by revising specific frequency listing and notes and adding a new note 29 in paragraph (a), revising paragraph (b)(6) TABLE 11, revising the introductory text in paragraph

(v)(2) to read as follows:

§101.147 Frequency assignments.

for fixed microwave services.

* * *

* * *

2,150-2160 MHz (22) (29)

* * *

2450-2500 MHz (4)

12,200-12,700 MHz (22)

12,700-13,200 MHz (22)

(20) New facilities in these bands will be licensed only on a secondary basis. Facilities licensed or
101.81 and retain their primary status.

(22) Frequencies in these bands are for the exclusive use of Private Operational Fixed Point-to-Point Microwave Service (part 101). Frequencies in the 12,700-13,200 MHz band, which were available only to stations authorized in the 12,200-12,700 MHz band as of September 9, 1983, are not available for new facilities.

(29) Frequencies in this band are shared with stations in the Multipoint Distribution Service (Part 21). These frequencies may be used for the transmission of the licensee's products and information services, excluding video entertainment material to the licensee's customers.

* * *

(b) * * * * *

(6) * * *

Table 11-Paired Frequencies

[Frequencies may be used only by Private Operational Fixed Point-to-Point Microwave licensees, unless otherwise noted]

(200 kHz bandwidth)

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
933.1750 /1/	942.1750 /1/
933.3750 /1/	942.3750 /1/
933.5750 /1/	942.5750 /1/
933.7750 /1/	942.7750 /1/
933.9750 /1/	942.9750 /1/
934.1750 /1/	943.1750 /1/
934.3750 /1/	943.3750 /1/
957.15	953.55
957.55	953.95
957.95	954.35
958.35	954.75
958.75	955.15

959.15 955.55

/1/ These frequencies also may be used by Common Carrier Fixed Point-to-Point Microwave licensees.

* * * * *

(j) 6,425 to 6,525 MHz: Mobile. Paired and un-paired operations permitted. Use of this spectrum for direct delivery of video programs to the general public or multi-channel cable distribution is not permitted. This band is co-equally shared with mobile stations licensed pursuant to Parts 74 and 78 of the Commission's Rules. Stations not intended to be operated while in motion will be licensed under the provision of §101.31. The following channel plans apply.

* * * * *

(r) * * * * *

(3) * * *

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
* * *	* * *
18337.0	18553.0.
* * *	* * *

(4) * * *

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
* * *	* * *
18005.0	19565.0.
* * *	* * *

(5) * * *

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
--------------------------------	--------------------------------

* * *	* * *
18130.0	19690.0.

340 MHz Separation

18590.0	18930.0.
18610.0	18950.0.
* * * * *	

(v)(1) * * *

2-A	38,650-38,700	2-B	39,350-39,400
3-A	38,700-38,750	3-B	39,400-39,450
4-A	38,750-38,800	4-B	39,450-39,500
5-A	38,800-38,850	5-B	39,500-39,550
6-A	38,850-38,900	6-B	39,550-39,600

* * *

(v)(2) Channels Blocks 1 through 14 are assigned for use within Economic Areas (EAs). Applicants are to apprise themselves of any licensed rectangular service areas within the EA for which they seek a license and comply with the requirements set forth in § 101.103. All of the channel blocks may be subdivided as desired by the licensee and used within its service area as desired without further authorization subject to the terms and conditions set forth in § 101.149.

* * * * *

33. Section 101.803 is amended by revising paragraphs (a) and (d) to read as follows:

§101.803 Frequencies.

(a) Frequencies in the following bands are available for assignment to television pickup and television non-broadcast pickup stations in this service:

* * *
 14,200 to 14,400 MHz (8)
 * * *

Notes

* * *

(5) Assignments to common carriers in this band are normally made in the segments 21,200-21,800 MHz and 22,400-23,800 MHz and to operational fixed users in the segments 21,800-22,400 MHz and 23,000-23,600 MHz. Assignments may be made otherwise only upon a showing that interference free frequencies are not available in the normally assigned band segments.

* * *

(8) The maximum power for the local television transmission service in the 14.2-14.4 GHz band is +45 dBW except that operations are not permitted within 1.5 degrees of the geostationary orbit.

* * * * *

(d) Frequencies in the following bands are available for assignment to television STL stations in this service:

* * *

10,700 to 11,700 MHz (1), (6)

11,700 to 12,200 MHz (3)

13,200 to 13,250 MHz (2)

* * *

* * * * *

34. Section 101.815 is amended by revising paragraph (a)(5) to read as follows:

§ 101.815 Stations at temporary fixed locations.

(a) * * * * *

(5) Applications for such stations must comply with the provisions of § 101.21(f).

* * * * *

APPENDIX D - Proposed Rules

Part 101 of Chapter 1 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

PART 101 - FIXED MICROWAVE SERVICES

1. The authority citation for Part 101 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303.

2. Section 101.5 is proposed to be amended by revising paragraph (b) to read as follows:

§ 101.5 Station authorization required.

* * * * *

(b) A separate application form must be filed electronically via ULS for each Digital Electronic Message Service (DEMS) Nodal Station. No license is required for a DEMS User Station or for Multiple Address System (MAS) remote and mobile stations. Authority for a DEMS Nodal Station licensee to serve a specific number of user stations to be licensed in the name of the carrier must be requested on FCC Form 601 filed for the DEMS Nodal Station. Authority for any number of MAS remotes and authority to serve MAS mobiles within a specified area will be included in the authority for the MAS fixed master stations.

* * * * *

3. Section 101.31 is proposed to be amended by revising paragraph (a)(2) and removing paragraphs (a)(3)-(5) and redesignating paragraph (a)(6) as (a)(3), and revising paragraphs (b)(1) and (b)(1)(vii) to read as follows:

§ 101.31 Temporary and conditional authorizations.

(a)(1) * * *

(a)(2) Applications for authorizations to operate stations at temporary locations under the provisions of this section shall be made upon FCC Form 601. Blanket applications may be submitted for the required number of transmitters. An application for authority to operate a fixed station at temporary locations must specify the precise geographic area within which the operation will be confined. The area specified must be defined as a radius of operation about a given state or states, latitude/longitude, or as a rectangular area bounded by upper and lower lines of latitude and longitude. Exception to this specific requirement may be made for exceptionally large areas, such as the continental United States. Sufficient data must be submitted to show the need for the proposed area of operation.

* * *

(b) *Conditional authorization.* (1) An applicant for a new point-to-point microwave radio station(s) or a modification of an existing station(s) in the 952.95-956.15, 956.55-959.75, 3,700-4,200; 5,925-6,425; 6,525-6,875; 10,550-10,680; 10,700-11,700; 11,700-12,200; 12,200-12,700; 12,700-13,200; 13,200-13,250; 17,700-19,700; and 21,200-23,600 MHz bands (see § 101.147 for specific service usage) may operate the proposed station(s) during the pendency of its applications(s) upon the filing of a properly completed formal application(s) that complies with subpart B of part 101 if the applicant certifies that the following conditions are satisfied:

* * * * *

(vii) The filed application(s) proposes to operate in the 21.2-23.6 GHz band on one or more of the frequency pairs 21.825/23.025 GHz, 21.875/23.075 GHz, 21.925/23.125 GHz or 21.975/23.175 for low power, limited coverage systems with an E.R.P. not greater than 55 dBm.

* * * * *

4. Section 101.101 is proposed to be amended by revising the table to read as follows:

§ 101.101 Frequency availability.

FREQUENCY BAND (MHz)	RADIO SERVICE				NOTES
	COMMON CARRIER (Part 101)	PRIVATE RADIO (Part 101)	BROADCAST AUXILIARY (Part 74)	OTHER (Parts 15, 21, 24, 25, 74, 78, & 100)	
* * *	* * *	* * *	* * *	* * *	* * *
2450 – 2500	CC	OFS	TV BAS	ISM	F/M/TF
* * *					
18,820-18,920	CC DEMS	OFS DEMS		SAT	
* * *					
19,160-19,210	CC DEMS	OFS DEMS		SAT	
* * *					

* * * * *

5. Section 101.107 is proposed to be amended by revising the table in paragraph (a) to read as follows:

§ 101.107 Frequency tolerance.

(a) * * *

Frequency (MHz)	FREQUENCY TOLERANCE (PERCENT)
928 to 929 (5)	0.0005
932 to 932.5	0.00015
932.5 to 935	0.00025
941 to 941.5	0.00015
941.5 to 944	0.00025
952 to 960 (5)	0.0005
1,850 to 1,990	0.002
2,110 to 2,200	0.001
2,450 to 2,500 (1)	0.001
3,700 to 4,200 (1)	0.005
5,925 to 6,875 (1)	0.005
10,550 to 11,700 (1)(2)	0.005
11,700 to 12,200 (1)	0.005
12,200 to 13,250 (4)	0.005
14,200 to 14,400	0.03
17,700 to 18,820 (2)(3)	0.003
18,820 to 18,920 (2)(3)	0.001
18,920 to 19,700 (2)(3)	0.003

Frequency (MHz)	FREQUENCY TOLERANCE (PERCENT)
928 to 929 (5)	0.0005
19,700 to 27,500 (4)(7)	0.001
27,500 to 28,350	0.001
29,100 to 29,250	0.001
31,000 to 31,300 (6)	0.001
31,300 to 40,000 (4)	0.03

(1) Applicable only to common carrier LTTS stations. Tolerance for 2450-2500 MHz is 0.005%. Beginning Aug. 9, 1975, this tolerance will govern the marketing of LTTS equipment and the issuance of all such authorizations for new radio equipment. Until that date new equipment may be authorized with a frequency tolerance of .03% in the frequency range 2,200 to 10,500 MHz and .05% in the range 10,500 MHz to 12,200 MHz, and equipment so authorized may continue to be used for its life provided that it does not cause interference to the operation of any other licensee.

(2) See subpart G of this part for the stability requirements for transmitters used in the Digital Electronic Message Service.

(3) Existing type accepted equipment with a frequency tolerance of $\pm 0.03\%$ may be marketed until December 1, 1988. Equipment installed and operated prior to December 1, 1988 may continue to operate after that date with a minimum frequency tolerance of $\pm 0.03\%$. However, the replacement of equipment requires that the current tolerance be met.

(4) Applicable to private operational fixed point-to-point microwave only. For exceptions see § 101.147.

(5) For private operational fixed point-to-point microwave systems, with a channel greater than or equal to 50 KHz bandwidth, $\pm 0.0005\%$; for multiple address master stations, regardless of bandwidth, $\pm 0.00015\%$; for multiple address remote stations with 12.5 KHz bandwidths, $\pm 0.00015\%$; for multiple address remote stations with channels greater than 12.5 KHz bandwidth, $\pm 0.0005\%$.

(6) For stations authorized prior to March 11, 1997, transmitter tolerance shall not exceed 0.03%.

(7) The frequency tolerance for stations authorized on or before **[insert date 24 months after the rule becomes effective]** is 0.03%. Existing licensees and pending applicants on that date may continue to operate after that date with a frequency tolerance of 0.03%, provided that it does not cause harmful interference to the operation of any other licensee. For exceptions, see §101.147 and §101.507.

6. Section 101.109 is proposed to be amended by revising the table in paragraph (c) to read as follows:

§101.109 Bandwidth.

* * * * *

(c) * * *

Frequency Band (MHz)	Maximum Authorized Bandwidth
* * *	* * *
21,200 to 23,600	50 kHz /1/ /4/
* * *	* * *

* * * * *

7. Section 101.113 is proposed to be amended by revising the table in paragraph (a) to read as follows:

§ 101.113 Transmitter power limitations.

(a) * * *

Frequency Band (MHz)	Maximum allowable EIRP (1)(2)	
	Fixed (dBW)	(dBW)
* * *		* * *
10,550 to 10,600 (5)	
10,600 to 10,680 (5)		
* * *	* * *	

* * * * *

8.

paragraphs (c) through (g) as (b) through (f), and revising the table in redesignated paragraph (b) to read as follows:

* * * * *

(b) * * *

Antenna Standards										
Frequency (MHz)	Category	Maximum beamwidth to 3 dB points ¹ (included angle in degrees)	Minimum antenna gain (dBi)	Minimum radiation suppression to angle in degrees from centerline of main beam in decibels						
				5° to 10°	10° to 15°	15° to 20°	20° to 30°	30° to 100°	100° to 140°	140° to 180°
* * *										
6,525 to 6,875 ⁶	A	1.5	n/a	26	29	32	34	38	41	49
	B	2.0	n/a	21	25	29	32	35	39	45
10,550 to 10,680 ⁷	A	3.5	33.5	18	24	28	32	35	55	55
	B	3.5	33.5	17	24	28	32	35	40	45
* * *										
21,200 to 23,600 ^{7, 11}	A	3.3	33.5	18	26	26	33	33	55	55
	B	3.3	33.5	17	24	24	29	29	40	50
* * *										

* * *

/7/ For stations authorized or pending on [insert effective date], the minimum radiation suppression for Category B is 35 dB in the 10,550-10,680 MHz band and 36 dB in the 21,200-23,600 MHz band for discrimination angles from 100° to 180°.

* * * * *

9. Section 101.117 is proposed to be revised to read as follows:

§ 101.117 Antenna polarization.

Except as set forth herein, stations operating in the radio services included in this part are not limited as to the type of polarization of the radiated signal that may be employed. However, in the event interference in excess of permissible levels is caused to the operation of other stations as a result of employing other than linear polarization, the Commission may order a licensee to change its system polarization to mitigate the interference. No change in polarization may be made without prior authorization from the Commission. For LMDS systems, unless otherwise authorized, system operators

are permitted to use any polarization within its service area but only linear polarization for antennas located within 20 kilometers of the outermost edge of their service area.

10. Section 101.133 is proposed to be amended by adding paragraph (e) to read as follows:

§ 101.133 Limitations on use of transmitters.

* * * * *

(e) Licensees filing to change status from private operational fixed to common carrier shall file the appropriate tariff information required by Part 61 and FCC Form 601. We will not require a fee for FCC Form 601 if only for this purpose. Licensees filing to change status from common carrier to private operational fixed shall file FCC Form 601 without a fee if only for this purpose, provided they have complied with all other discontinuance requirements of Title II of the Act.

11. The first sentence in paragraph (a) of Section 101.135 is proposed to be revised to read as follows:

§ 101.135 Shared use of radio stations and the offering of private carrier service.

* * * * *

(a) Persons or governmental entities licensed to operate radio systems pursuant to subpart H of this part on any of the private radio frequencies set out in § 101.101 may share such systems with, or provide private carrier service to, any eligible entity for licensing under this part, regardless of individual eligibility restrictions, provided that the communications being carried are permissible under § 101.603. *

* * * * *

12. Section 101.139 is proposed to be amended by revising paragraph (a) and adding paragraph (g) to read as follows:

§ 101.139 Authorization of transmitters.

(a) Unless specified otherwise, transmitters used in the private operational fixed and common carrier fixed point-to-point microwave and point-to-multipoint services under this part must be a type that has been verified for compliance.

* * * * *

(g) After [insert date 18 months after the effective date], the manufacture (except for export) or importation of equipment for operation in the 21,200-23,600 MHz band must meet:

(1) The 0.001% frequency tolerance requirement of §101.107(a); and

(2) For equipment employing digital modulation techniques, the minimum bit rate requirements of §101.141(a).

13. Section 101.141 is proposed to be amended by revising paragraphs (a) and (a)(1) to read as follows:

§ 101.141 Microwave modulation.

(a) Microwave transmitters employing digital modulation techniques and operating below 25.25 GHz must, with appropriate multiplex equipment, comply with the following additional requirements:

(1) * * *

NOTE to (a)(1): Stations authorized prior to December 1, 1988 may install equipment after that date with no minimum bit rate. Stations applied for or authorized prior to **[insert date 24 months after effective date]** in the 21.2-23.6 GHz band may install equipment after that date with no minimum bit rate.

* * * * *

14. Section 101.147 is proposed to be amended by removing the text and reserving paragraph (k) and revising paragraphs (a), the introductory text of (b), amending the last line of paragraph (r)(10), and revising paragraph (s) to read as follows:

§ 101.147 Frequency assignments.

(a) * * *

* * *

2,450-2,500 MHz /12/

* * *

Notes

/1/ Frequencies in this band are shared with control and repeater stations in the Public Mobile Services and with stations in the International Fixed Public Radiocommunication Services located south of 25° 30' north latitude in the State of Florida and U. S. possessions in the Caribbean area. Additionally, the band 2160-2162 MHz is shared with stations in the Multipoint Distribution Service.

* * *

/12/ Frequencies in this band are available for assignment to the common carrier and private-operational fixed point-to-point microwave services.

* * *

/26/ Frequencies from 21.7-22.0 GHz and 22.9-23.2 GHz may be authorized for low power, limited coverage systems subject to the provisions of paragraph (s) of this section.

* * * * *

- (b) Subsections 1 - 5 and Tables 1 - 7 pertain to Multiple Address System (MAS) frequencies and Subsection 6 and Tables 8 - 11 pertain to point-to-point frequencies. (The remainder of this introductory paragraph applies only to MAS frequencies except for; refer to Subsection 6 for point-to-point frequencies). Frequencies normally available for assignment in this service are set forth with applicable limitations in the following tables: 928-960 MHz Multiple address system (MAS) frequencies are available for the point-to-multipoint and point-to-point transmission of a licensee's products or services, excluding video entertainment material, to a licensee's customer or for its own internal communications. The paired frequencies listed in this section are used for two-way interrogate/response communications between a master station and remote stations. Each master station operating on these frequencies is required to serve a minimum of four separate active remote stations. Ancillary one-way communications on paired frequencies are permitted on a case-by-case basis. Ancillary communications between interrelated master stations are permitted on a secondary basis. The normal channel bandwidth assigned will be 12.5 kHz. EA licensees, however, may combine contiguous channels without limit or justification. Site-based licensees may combine contiguous channels up to 50 kHz, and more than 50 kHz only upon a showing of adequate justification. When licensed for a larger bandwidth, the system still is required to use equipment that meets the ± 0.00015 percent tolerance requirement. (See § 101.107). Any bandwidth (12.5 kHz, 25 kHz or greater) authorized in accordance with this section may be subdivided into narrower bandwidths to create additional (or sub) frequencies without the need to specify each discreet frequency within the specific bandwidth. Equipment that is used to create additional frequencies by narrowing bandwidth (whether authorized for a 12.5 kHz, 25 kHz or greater bandwidth) will be required to meet, at a minimum, the ± 0.00015 percent tolerance requirement so that all subfrequencies will be within the emission mask. When using subfrequencies, licensees are subject to the construction requirement of one master and four remotes per authorized bandwidth (12.5 kHz, 25 kHz or greater). Systems licensed for frequencies in these MAS bands prior to August 1, 1975, may continue to operate as authorized until June 11, 1996, at which time they must comply with current MAS operations based on the 12.5 kHz channelization set forth in this paragraph. Systems licensed between August 1, 1975, and January 1, 1981, inclusive, are required to comply with the grandfathered 25 kHz standard bandwidth and channelization requirements set forth in this paragraph. Systems originally licensed after January 1, 1981, and on or before May 11, 1988, with bandwidths of 25 kHz and above, will be grandfathered indefinitely.

* * *

(k) [Reserved]

* * * * *

(r) * * * * *

(10) * * * Such operations are available to private and common carriers and are subject to the following requirements for the low power transmitting devices:

* * *

(s) *21,200 to 23,600 MHz*: 50 MHz authorized bandwidth.

(1) 2.5 MHz bandwidth channels:

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
21601.25	22801.25
21603.75	22803.75
21606.25	22806.25
21608.75	22808.75
21611.25	22811.25
21613.75	22813.75
21616.25	22816.25
21618.75	22818.75
21621.25	22821.25
21623.75	22823.75
21626.25	22826.25
21628.75	22828.75
21631.25	22831.25
21633.75	22833.75
21636.25	22836.25
21638.75	22838.75
21641.25	22841.25
21643.75	22843.75
21646.25	22846.25
21648.75	22848.75
21651.25	22851.25
21653.75	22853.75
21656.25	22856.25

21658.75	22858.75
21661.25	22861.25
21663.75	22863.75
21666.25	22866.25
21668.75	22868.75
21671.25	22871.25
21673.75	22873.75
21676.25	22876.25
21678.75	22878.75
21681.25	22881.25
21683.75	22883.75
21686.25	22886.25
21688.75	22888.75
21691.25	22891.25
21693.75	22893.75
21696.25	22896.25
21698.75	22898.75
21701.25 /1/	22901.25 /1/
21703.75 /1/	22903.75 /1/
21706.25 /1/	22906.25 /1/
21708.75 /1/	22908.75 /1/
21711.25 /1/	22911.25 /1/
21713.75 /1/	22913.75 /1/
21716.25 /1/	22916.25 /1/
21718.75 /1/	22918.75 /1/
21721.25 /1/	22921.25 /1/
21723.75 /1/	22923.75 /1/
21726.25 /1/	22926.25 /1/
21728.75 /1/	22928.75 /1/
21731.25 /1/	22931.25 /1/
21733.75 /1/	22933.75 /1/
21736.25 /1/	22936.25 /1/
21738.75 /1/	22938.75 /1/
21741.25 /1/	22941.25 /1/
21743.75 /1/	22943.75 /1/
21746.25 /1/	22946.25 /1/
21748.75 /1/	22948.75 /1/
21751.25 /1/	22951.25 /1/
21753.75 /1/	22953.75 /1/
21756.25 /1/	22956.25 /1/
21758.75 /1/	22958.75 /1/
21761.25 /1/	22961.25 /1/
21763.75 /1/	22963.75 /1/
21766.25 /1/	22966.25 /1/

21768.75 /1/	22968.75 /1/
21771.25 /1/	22971.25 /1/
21773.75 /1/	22973.75 /1/
21776.25 /1/	22976.25 /1/
21778.75 /1/	22978.75 /1/
21781.25 /1/	22981.25 /1/
21783.75 /1/	22983.75 /1/
21786.25 /1/	22986.25 /1/
21788.75 /1/	22988.75 /1/
21791.25 /1/	22991.25 /1/
21793.75 /1/	22993.75 /1/
21796.25 /1/	22996.25 /1/
21798.75 /1/	22998.75 /1/
22301.25	23501.25
22303.75	23503.75
22306.25	23506.25
22308.75	23508.75
22311.25	23511.25
22313.75	23513.75
22316.25	23516.25
22318.75	23518.75
22321.25	23521.25
22323.75	23523.75
22326.25	23526.25
22328.75	23528.75
22331.25	23531.25
22333.75	23533.75
22336.25	23536.25
22338.75	23538.75
22341.25	23541.25
22343.75	23543.75
22346.25	23546.25
22348.75	23548.75
22351.25	23551.25
22353.75	23553.75
22356.25	23556.25
22358.75	23558.75
22361.25	23561.25
22363.75	23563.75
22366.25	23566.25
22368.75	23568.75
22371.25	23571.25
22373.75	23573.75
22376.25	23576.25

22378.75	23578.75
22381.25	23581.25
22383.75	23583.75
22386.25	23586.25
22388.75	23588.75
22391.25	23591.25
22393.75	23593.75
22396.25	23596.25
22398.75	23598.75

/1/ These frequencies may be assigned to low power systems, as defined in subsection (8) of this paragraph.

(2) 5 MHz bandwidth channels:

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
<hr/>	
21602.5	22802.5
21607.5	22807.5
21612.5	22812.5
21617.5	22817.5
21622.5	22822.5
21627.5	22827.5
21632.5	22832.5
21637.5	22837.5
21642.5	22842.5
21647.5	22847.5
21652.5	22852.5
21657.5	22857.5
21662.5	22862.5
21667.5	22867.5
21672.5	22872.5
21677.5	22877.5
21682.5	22882.5
21687.5	22887.5
21692.5	22892.5
21697.5	22897.5
21702.5 /1/	22902.5 /1/
21707.5 /1/	22907.5 /1/
21712.5 /1/	22912.5 /1/
21717.5 /1/	22917.5 /1/

21722.5 /1/	22922.5 /1/
21727.5 /1/	22927.5 /1/
21732.5 /1/	22932.5 /1/
21737.5 /1/	22937.5 /1/
21742.5 /1/	22942.5 /1/
21747.5 /1/	22947.5 /1/
21752.5 /1/	22952.5 /1/
21757.5 /1/	22957.5 /1/
21762.5 /1/	22962.5 /1/
21767.5 /1/	22967.5 /1/
21772.5 /1/	22972.5 /1/
21777.5 /1/	22977.5 /1/
21782.5 /1/	22982.5 /1/
21787.5 /1/	22987.5 /1/
21792.5 /1/	22992.5 /1/
21797.5 /1/	22997.5 /1/
22302.5	23502.5
22307.5	23507.5
22312.5	23512.5
22317.5	23517.5
22322.5	23522.5
22327.5	23527.5
22332.5	23532.5
22337.5	23537.5
22342.5	23542.5
22347.5	23547.5
22352.5	23552.5
22357.5	23557.5
22362.5	23562.5
22367.5	23567.5
22372.5	23572.5
22377.5	23577.5
22382.5	23582.5
22387.5	23587.5
22392.5	23592.5
22397.5	23597.5

/1/ These frequencies may be assigned to low power systems, as defined in subsection (8) of this paragraph.

(3) 10 MHz bandwidth channels:

TRANSMIT	RECEIVE
----------	---------

(receive) (MHz)	(transmit) (MHz)
21205	22405
21215	22415
21225	22425
21235	22435
21245	22445
21255	22455
21265	22465
21275	22475
21285	22485
21295	22495
21305	22505
21315	22515
21325	22525
21335	22535
21345	22545
21355	22555
21365	22565
21375	22575
21385	22585
21395	22595
21405	22605
21415	22615
21425	22625
21435	22635
21445	22645
21455	22655
21465	22665
21475	22675
21485	22685
21495	22695
21505	22705
21515	22715
21525	22725
21535	22735
21545	22745
21555	22755
21565	22765
21575	22775
21585	22785
21595	22795
21605 /1/	22805 /1/

21615 /1/	22815 /1/
21625 /1/	22825 /1/
21635 /1/	22835 /1/
21645 /1/	22845 /1/
21655 /1/	22855 /1/
21665 /1/	22865 /1/
21675 /1/	22875 /1/
21685 /1/	22885 /1/
21695 /1/	22895 /1/
21705 /1//2/	22905 /1//2/
21715 /1//2/	22915 /1//2/
21725 /1//2/	22925 /1//2/
21735 /1//2/	22935 /1//2/
21745 /1//2/	22945 /1//2/
21755 /1//2/	22955 /1//2/
21765 /1//2/	22965 /1//2/
21775 /1//2/	22975 /1//2/
21785 /1//2/	22985 /1//2/
21795 /1//2/	22995 /1//2/
21805 /2/	23005 /2/
21815 /2/	23015 /2/
21825 /2/	23025 /2/
21835 /2/	23035 /2/
21845 /2/	23045 /2/
21855 /2/	23055 /2/
21865 /2/	23065 /2/
21875 /2/	23075 /2/
21885 /2/	23085 /2/
21895 /2/	23095 /2/
21905 /2/	23105 /2/
21915 /2/	23115 /2/
21925 /2/	23125 /2/
21935 /2/	23135 /2/
21945 /2/	23145 /2/
21955 /2/	23155 /2/
21965 /2/	23165 /2/
21975 /2/	23175 /2/
21985 /2/	23185 /2/
21995 /2/	23195 /2/
22005	23205
22015	23215
22025	23225
22035	23235
22045	23245

22055	23255
22065	23265
22075	23275
22085	23285
22095	23295
22105	23305
22115	23315
22125	23325
22135	23335
22145	23345
22155	23355
22165	23365
22175	23375
22185	23385
22195	23395
22205	23405
22215	23415
22225	23425
22235	23435
22245	23445
22255	23455
22265	23465
22275	23475
22285	23485
22295	23495
22305 /1/	23505 /1/
22315 /1/	23515 /1/
22325 /1/	23525 /1/
22335 /1/	23535 /1/
22345 /1/	23545 /1/
22355 /1/	23555 /1/
22365 /1/	23565 /1/
22375 /1/	23575 /1/
22385 /1/	23585 /1/
22395 /1/	23595 /1/

/1/ Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

/2/ These frequencies may be assigned to low power systems, as defined in subsection (8) of this paragraph.

(4) 20 MHz bandwidth channels:

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
21210	22410
21230	22430
21260	22460
21280	22480
21310	22510
21330	22530
21360	22560
21380	22580
21410	22610
21430	22630
21460	22660
21480	22680
21510	22710
21530	22730
21560	22760
21580	22780
21610 /1/	22810 /1/
21630 /1/	22830 /1/
21660 /1/	22860 /1/
21680 /1/	22880 /1/
21710 /1//2/	22910 /1//2/
21730 /1//2/	22930 /1//2/
21760 /1//2/	22960 /1//2/
21780 /1//2/	22980 /1//2/
21810 /2/	23010 /2/
21830 /2/	23030 /2/
21860 /2/	23060 /2/
21880 /2/	23080 /2/
21910 /2/	23110 /2/
21930 /2/	23130 /2/
21960 /2/	23160 /2/
21980 /2/	23180 /2/
22010	23210
22030	23230
22060	23260
22080	23280
22110	23310
22130	23330
22160	23360

22180	23380
22210	23410
22230	23430
22260	23460
22280	23480
22310 /1/	23510 /1/
22330 /1/	23530 /1/
22360 /1/	23560 /1/
22380 /1/	23580 /1/

/1/ Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

/2/ These frequencies may be assigned to low power systems, as defined in subsection (8) of this paragraph.

(5) 30 MHz bandwidth channels:

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
21235	22435
21285	22485
21335	22535
21385	22585
21435	22635
21485	22685
21535	22735
21585	22785
21635 /1/	22835 /1/
21685 /1/	22885 /1/
21735 /1//2/	22935 /1//2/
21785 /1//2/	22985 /1//2/
21835 /2/	23035 /2/
21885 /2/	23085 /2/
21935 /2/	23135 /2/
21985 /2/	23185 /2/
22035	23235
22085	23285
22135	23335
22185	23385
22235	23435

22285 23485
 22335 /1/ 23535 /1/
 22385 /1/ 23585 /1/

/1/ Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

/2/ These frequencies may be assigned to low power systems, as defined in paragraph (8) of this section.

(6) 40 MHz bandwidth channels:

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
21220	22420
21270	22470
21320	22520
21370	22570
21420	22620
21470	22670
21520	22720
21570	22770
21620 /1/	22820 /1/
21670 /1/	22870 /1/
21720 /1//2/	22920 /1//2/
21770 /1//2/	22970 /1//2/
21820 /2/	23020 /2/
21870 /2/	23070 /2/
21920 /2/	23120 /2/
21970 /2/	23170 /2/
22020	23220
22070	23270
22120	23320
22170	23370
22220	23420
22270	23470
22320 /1/	23520 /1/
22370 /1/	23570 /1/

/1/ Alternate channels. These channels are set aside for narrow bandwidth systems and

should be used only if all other channels are blocked.

/2/ These frequencies may be assigned to low power systems, as defined in paragraph (8) of this section.

(7) 50 MHz bandwidth channels:

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
21225	22425
21275	22475
21325	22525
21375	22575
21425	22625
21475	22675
21525	22725
21575	22775
21625 /1/	22825 /1/
21675 /1/	22875 /1/
21725 /1//2/	22925 /1//2/
21775 /1//2/	22975 /1//2/
21825 /2/	23025 /2/
21875 /2/	23075 /2/
21925 /2/	23125 /2/
21975 /2/	23175 /2/
22025	23225
22075	23275
22125	23325
22175	23375
22225	23425
22275	23475
22325 /1/	23525 /1/
22375 /1/	23575 /1/

/1/ Alternate channels. These channels are set aside for narrow bandwidth systems and should be used only if all other channels are blocked.

/2/ These frequencies may be assigned to low power systems, as defined in paragraph (8) of this section.

(8) *Special provisions for low power, limited coverage systems in the 21.2-23.6 GHz band.*

Notwithstanding any contrary provisions in this part, the frequencies from 21.7-22.0 GHz and 22.9-23.2 GHz may be authorized for low power, limited coverage systems subject to the following provisions:

(i) The maximum EIRP shall be 55 dBm.

(ii) In the band segments from 21.8-22.0 GHz and 23.0-23.2 GHz, the frequency tolerance for stations authorized on or before **[insert date 24 months after effective date]** is 0.05%. Existing licensees and pending applicants on that date may continue to operate after that date with a frequency tolerance of 0.05%, provided that it does not cause harmful interference to the operation of any other licensee. The frequency tolerance of §101.107(a) shall apply to stations applied for after **[insert date 24 months after effective date]**.

(iii) Stations authorized on or before **[insert date 24 months after effective date]** shall meet the following antenna standards:

(A) The maximum beamwidth shall not exceed 4 degrees; and

(B) The sidelobe suppression criteria contained in §101.115 of this part shall not apply, except that a minimum front-to-back ratio of 38 dB shall apply.

(iv) Stations applied for after **[insert date 24 months after effective date]** shall meet the antenna standards of §101.115. Existing licensees and pending applicants on that date may continue to operate after that date with antennas meeting the requirements of paragraph (iii) of this section.

* * * * *

15. Section 101.507 is proposed to be revised to read as follows:

§ 101.507 Frequency stability.

The frequency stability in the 10,565-10,680 MHz band must be $\pm 0.0001\%$ for each DEMS Nodal Station transmitter and $\pm 0.0003\%$ for each DEMS User Station transmitter. The frequency stability in the 17,700-19,700 MHz and 24,250-25,250 MHz bands must be $\pm 0.001\%$ for each DEMS Nodal Station transmitter and $\pm 0.003\%$ for each DEMS User Station transmitter.

16. Section 101.603 is proposed to be amended by revising paragraph (b)(1) to read as follows:

§ 101.603 Permissible communications.

* * * * *

(b) * * *

(1) Render a common carrier service of any kind except for grandfathered private operational fixed

microwave systems which were contracted and licensed to support Specialized Mobile Radio Systems (SMRS) on these frequencies before the Commission implemented the Budget Act to revise Section 332 of the Communications Act and changed their SMRS status from private service to Commercial Mobile Radio Service (CMRS) as a common carrier.

* * * * *

17. Section 101.803 is proposed to be amended by removing paragraph (e), and revising paragraphs (a) and (d) to read as follows:

§ 101.803 Frequencies.

(a) Frequencies in the following bands are available for assignment to television pickup and television non-broadcast pickup stations in this service:

* * *

14,200 to 14,400 MHz.	/8/
21,200 to 22,000 MHz.	/1/ /2/ /4/ /5/
22,000 to 23,600 MHz.	/1/ /2/ /5/

* * *

* * * * *

/5/ This frequency band is shared with the common carrier and private-operational fixed point-to-point microwave services.

* * * * *

/8/ The maximum power for the local television transmission service in the 14.2-14.4 GHz band is +45 dBW, except that operations are not permitted within 1.5 degrees of the geostationary orbit.

* * * * *

(d) * * *

/8/ This frequency band is shared with the common carrier and private-operational fixed point-to-point microwave services.

* * * * *

18. Section 101.809 is proposed to be amended by revising paragraph (d) to read as follows:

§ 101.809 Bandwidth and emission limitations.

* * * * *

(d) Maximum bandwidths in the following frequency bands must not exceed the limits set forth below:

Frequency band (MHz)	Maximum Authorized Bandwidth (MHz)
3,700 to 4,200	20 /1/
5,925 to 6,425	30 /1/
6,425 to 6,525	25
10,700 to 12,200	40 /1/
13,200 to 13,250	25
21,200 to 23,600	50 /1/

/1/ The maximum bandwidth that will be authorized for each particular frequency in this band is detailed in the appropriate frequency table in §101.147.

* * * * *

19. Section 101.815 is proposed to be amended by revising paragraph (a)(1) to read as follows:

§ 101.815 Stations at temporary fixed locations.

(a) * * *

(1) When a fixed station is to remain at a single location for less than 6 months, the location is considered to be temporary.

* * * * *